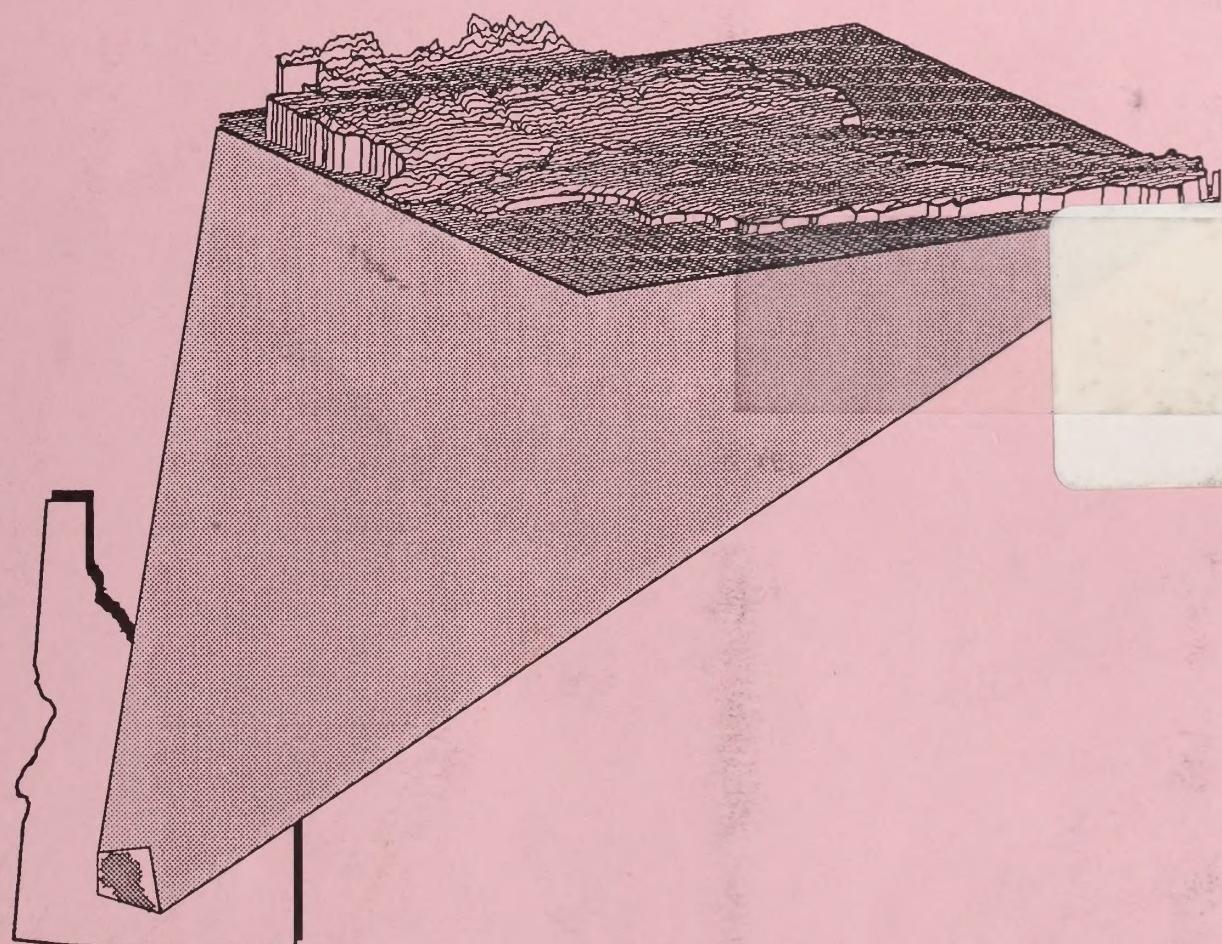




## DRAFT RESOURCE MANAGEMENT PLAN

AND  
DRAFT ENVIRONMENTAL IMPACT STATEMENT

# BENNETT HILLS



U.S. Department of the Interior  
Bureau of Land Management  
Shoshone District

March 1994





# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
SHOSHONE DISTRICT OFFICE  
400 WEST "F" STREET  
P.O. BOX 2B  
SHOSHONE, IDAHO 83352



IN REPLY REFER TO:

Enclosed for your review is the Draft Bennett Hills Resource Management Plan and Draft Environmental Impact Statement. This plan outlines the proposed management of 649,786 acres of public land in the Bennett Hills Resource Area. Alternative A is the "no action" alternative and would continue the current management subject to new policy direction by the BLM's State and Washington Offices. Alternatives B and C differ in the management of recreation use along the north rim of the Snake River, the initial level of grazing use, and in the designation of river segments suitable for consideration by Congress for inclusion in the National Wild and Scenic Rivers System. Alternative D reflects a conceptual agreement between the BLM and the State of Idaho for land exchange and sets initial livestock grazing use at the 1984-1992 nine-year average actual use. Alternative D is the BLM's preferred alternative.

For further information contact District Manager Mary Gaylord, Bureau of Land Management, P.O. Box 2-B, Shoshone, Idaho 83352, Telephone (208) 886-7201.

Comments should be submitted to the above address by July 1, 1994.

BLM LIBRARY  
RS 150A BLDG. 50  
DENVER FEDERAL CENTER  
P.O. BOX 25047  
DENVER, CO 80225

ID 88045276

Property of BLM/OSO Library

1. Responsible Agency: United States Department of the Interior  
Bureau of Land Management

HD  
243  
.I2

2. Draft (X) Final ( ) S 56  
1994

3. Title: Bennett Hills Resource Management Plan  
and Environmental Impact Statement

Shoshone District

Lincoln, Gooding, Camas, Jerome, Blaine and Elmore Counties, Idaho

4. Administrative Action ( ) Legislative Action ( )

5. Abstract: This plan outlines the proposed management of 649,786 acres of public land in the Bennett Hills Resource Area. Alternative A is the "no action" alternative and would continue the current management subject to new policy direction by the BLM's State and Washington Offices. Alternatives B and C differ in the management of recreation use along the north rim of the Snake River, the initial level of grazing use, and in the designation of river segments suitable for consideration by Congress for inclusion in the National Wild and Scenic Rivers System. Alternative D reflects a conceptual agreement between the BLM and the State of Idaho for land exchange and sets initial livestock grazing use at the 1984-1992 nine-year average actual use. Alternative D is the BLM's preferred alternative. This document also includes the environmental analysis required for the wild and scenic river proposal.

6. Date Comments Must be Received: July 1, 1994.

7. For Further Information Contact: District Manager  
Shoshone District Office  
Bureau of Land Management  
P.O. Box 2-B  
Shoshone ID 83352  
(208) 886-7201

BLM LIBRARY  
RS 150A BLDG. 50  
DENVER FEDERAL CENTER  
P.O. BOX 25047  
DENVER, CO 80225



## SUMMARY

The Bennett Hills Resource Management Plan (RMP) is prepared to provide the Shoshone District Bureau of Land Management with a comprehensive framework for managing 649,786 acres of BLM-administered public land over the next 15 to 20 years. This draft Resource Management Plan is developed to guide the management of public land resources according to the principles of multiple-use, sustained yield, and other principles as outlined in Bureau of Land Management planning regulations. This draft Environmental Impact Statement addresses the Bureau of Land Management's preferred plan.

This draft Resource Management Plan and Environmental Impact Statement updates land use planning decisions in two existing Management Framework Plans (Sun Valley, 1981 and Bennett Hills/Timmerman, 1976) and one Resource Management Plan (Monument, 1985) which have guided the BLM's management of public land in the planning area for the past 14 years. The Management Framework Plan and Resource Management Plan decisions that still have merit are being carried forward and are incorporated into this plan. Those not specifically mentioned in this plan will no longer be valid.

This plan will also amend the Jarbidge Resource Management Plan (1987) to designate 800 acres along 10 miles of the west side of King Hills Creek as an Area of Critical Environmental Concern in coordination with the same designation along the east side within the Bennett Hills planning area.

The Bennett Hills Resource Area of Idaho's Shoshone District is presented in this document as of the start of 1994 with all its warts and beauty; its areas showing habitat improvements, degradation, and static condition; and the various issues and pressures facing management of the resources.

This plan is also a vision document showing the direction where management and resource specialists, with input from the public, believe the Bennett Hills should be heading. This direction is toward riparian area improvement, increasing vegetation diversity, improved water quality and quantity, and general increased ecological and economical health.

Whether present conditions are correctly described in this plan, and proposed improvements are the proper ones to undertake, often depend upon the viewpoint and past experience of the reader. We believe, however, that it is important to present a brief description of how past events shaped the area into what it is today and why the proposed goals are important.

Presettlement vegetation along the Snake River Plain was mainly sagebrush and bunchgrasses, with thickets of willows and cottonwoods at springs and along streams. The Oregon Trail opened in 1836 with one wagon and 20 cows. The flood of emigrants peaked in 1852 with about 10,000 wagons and 250,000 horses, cattle, and mules. Huge cattle drives of up to 3,000 longhorns were trailed from Oregon to Eastern markets in the 1860s and cattle ranching in Idaho

was begun. Within 10 years, up to 50,000 cattle were being raised on ranches in southern Idaho, and another 100,000 were trailed through Idaho from Oregon. The sheep industry began in the mid-1860s. By 1880, at least 357,000 sheep were reported in southern Idaho, not counting the numerous drifting or tramp sheep outfits which did not have a ranch headquarters. In 1890, at least 84,000 horses used southern Idaho rangelands and many of these became feral. These massive numbers of livestock had major impacts on native vegetation in the Bennett Hills Resource Area, and throughout the Snake River Plain.

In 1934, the *Taylor Grazing Act* was passed requiring base property to graze on public land. While the Act resulted in reduced grazing pressure on most of the American West, the Bennett Hills was one of the last areas to be adjudicated. Unrestricted grazing, especially by sheep, and the trailing of large bands from southern desert land to the Sawtooth Valley, continued for many years.

Wild fires, both natural and man-caused, burned hundreds of thousands of acres, further reducing perennial grasses and forbs. These burned areas have been heavily invaded by exotic plants such as Russian thistle, cheatgrass, mustards, and medusahead rye. Native ranges were further modified by brush control using herbicides, or burning and replacing the brush with range seedings, especially crested wheatgrass.

Degraded habitats displaced wildlife species such as mule deer and pronghorn antelope from traditional winter ranges and migration routes. The result has been substantial wildlife loss from collisions with trains and motor vehicles, depredation to agricultural crops, and damages to residential property. Poor riparian habitats resulted in increased sediment, and warmer water temperatures affected aquatic resources within the streams in the Bennett Hills and influenced water quality in the Snake River. Loss of riparian vegetation reduced habitats and migratory corridors for many species of wildlife, and especially for non-game migratory birds.

Into this gloomy picture has entered improved management. Some riparian areas have been improved through protective fences and management techniques such as increased herding of cattle and changes in season and duration of use. Land exchanges, range improvements, and cooperative agreements have provided for better livestock distribution and stocking numbers. Cooperative efforts with the Idaho Department of Fish and Game have resulted in some shrub restoration and habitat improvements in the traditional key wildlife habitats, improving numbers of elk, mule deer, pronghorn antelope, and sage grouse. Use of techniques such as "greenstripping" has helped to reduce the frequency and size of wild fires, and had some success in slowing the spread of exotic plants. The Thorn Creek Pilot Riparian Area showed major improvements in rangeland, and fish and wildlife habitat before an arson burned the area. It is again showing good recovery.

The BLM is beginning a management concept called Ecosystem Management, where all resource actions will be evaluated in relation to their effects on other resources within each ecosystem. We believe that we are on the right track in improving resource conditions within the area. The actions proposed in this plan, using the concept of ecosystem management, should accelerate that process. We hope you will agree that we are on track and we look forward to your comments.

## Public Participation Activities

The draft plan and impact statement is focused on resolving planning issues associated with the management of the planning area's public land. Planning issues were identified by the public and the BLM during the scoping period, which began on September 20, 1990. Major components of the scoping process included open house meetings in Twin Falls, Gooding, Jerome, and Shoshone (see Chapter 5 for list of meeting dates). Meetings were held with local, state, and Federal Government agencies. Presentations were made to the Shoshone District Grazing Advisory Board, the Multiple Use Advisory Council, and local interest groups. Emphasis was placed on informal meetings with interested individuals and groups to provide a comprehensive picture of issues and an interdisciplinary resolution. Throughout the process, written and verbal comments were accepted and summarized. Original comments and summaries are part of the supporting documentation and are available for inspection at the Shoshone District Office.

### Issues

The following planning issues were identified through public participation for the Bennett Hills planning area.

**Issue 1:** *How will the BLM continue to focus management attention on riparian resources and related uplands?*

Many public comments regarding the management of riparian/upland areas and water quality were received. Comments included praise for the current riparian management policies and achievements, and suggestions for expanding the pilot management efforts to the entire resource area. Comments regarding livestock use ranged from satisfaction with the current management level to dissatisfaction and urging more intensive livestock management. Riparian management is of primary concern to the BLM, as shown in the BLM's Riparian Management Policy (Fish and Wildlife 2000, 1987), and has received considerable management attention in the Bennett Hills Resource Area, as demonstrated by the Thorn Creek Pilot Riparian Management Area and other "showcase" riparian achievements. Of concern to the public and the BLM is the continued and expanded attention to riparian and upland resources.

**Issue 2:** *What land will be acquired into, or made available for disposal from, federal ownership?*

The Shoshone District has entered into a conceptual plan for a land exchange program with the State of Idaho, designed to block up land ownership for more efficient management, and acquire state land within wilderness study areas. Land ownership adjustments are desired to achieve more efficient management and utilization of public resources, to identify areas that are desirable to BLM because of high resource values, and to respond to specific public requests for the purchase or exchange of public land.

**Issue 3:** *How will public resources along the north rim of the Snake River Canyon be managed and for what uses?*

During the scoping process, much public attention was focused on the area bounded by the Snake River rim on the south, Interstate 84 on the north, and US Highway 93 on the west. Due to its proximity to the city of Twin Falls, increased recreation use, and the public's increased environmental awareness of the Snake River, this area contains many resource values in demand by the public. Besides the high recreation use, the area contains significant historical value (remnants of the Oregon Trail), wildlife habitat, livestock forage, saleable mineral materials, an Area of Critical Environmental Concern (Vineyard Lake), and portions are proposed for exchange into state ownership. Uncoordinated and unfocused management could result in conflict between the public users and degradation of the resources.

**Issue 4:** *Is there a need for protecting the Resource Area's critical resource values through special management designation?*

During the scoping process, the BLM received formal nominations for Areas of Critical Environmental Concern. Additionally, there are other special designations that can be made to focus management attention. These designations include, but are not limited to, Special Recreation Management Areas for intensive or concentrated recreation use, Significant Caves to focus management attention on important cave resources, Conservation Areas or Research Natural Areas for the protection or enhancement of opportunities for biological, geological and aquatic research. Selection and use of the appropriate designation, if any, is based on evaluation of the critical resource values. The *Wild and Scenic Rivers Act* (1968) requires the BLM to study and make recommendations on waterways for inclusion in the National Wild and Scenic Rivers System. This planning effort will determine eligibility, tentative classification, and interim management of wild and scenic rivers as part of this issue.

## Description of Alternatives

As required by the *National Environmental Policy Act*, and following guidelines developed by the Council on Environmental Quality, four alternative plans were developed. These alternatives compare the environmental consequences of addressing the planning issues in dissimilar ways.

The alternatives chosen for study in this draft plan and impact statement are: Alternative A is the "no action" alternative and would continue the current management subject to new policy direction by the BLM's State and Washington Offices. Alternatives B, C and D use desired future vegetation condition to establish management goals and direction instead of the traditional commodity goals used in Alternative A. Alternatives B and C differ from each other in the management of recreation use along the north rim of the Snake River, the initial level of grazing use, and in the recommendation of river segments for consideration by Congress for inclusion in the National Wild and Scenic Rivers System. Alternative D reflects a conceptual agreement between the BLM and the State of Idaho for land exchange. Alternatives A and B leave the initial livestock grazing at current levels, while Alternatives C and D adjust the livestock use levels at the 1984-1992 nine-year average actual use. Alternative D is the BLM's preferred alternative.

Table S-1 compares the resource allocations, management actions and cumulative impacts of each alternative. The Table shows the expected value of a resource or impact at the end of the 20-year planning horizon, and the amount of increase or decrease in the resource compared to the current situation. Impacts and allocations are accumulated from the analysis of each individual action analyzed in Chapter 4.

**TABLE S-1**  
**Summary of Resource Allocations, Management Actions,**  
**and Environmental Effects by Alternative**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Management Actions and Impacted Public Land Resources and Values (Units)	Current Situation	Alternative A: Existing Management Continuing as Future Management		Alternative B: Proposal for Future Management		Alternative C: Proposal for Future Management		Alternative D: Preferred Proposal for Future Management	
		Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation
Access, Exclusive Legal, Across Private Land to Public Land (miles)	4.2	72	68	72	68	72	68	72	68
Air Quality (tons of particulate matter/burning hour)	15	15	0	15	0	15	0	15	0
<b>Areas of Critical Environmental Concern</b>									
· How Many (number)	2	2	0	8	6	8	6	8	6
· How Large (acres)	252	252	0	14,878	14,626	14,878	14,626	14,878	14,626
BLM Road Network (miles)	310	378	68	378	68	378	68	378	68
Caves, Significant (number designated)	0	0	0	19	19	19	19	19	19
Crime Incidents (number/year)	160	198	38	199	39	168	8	168	8

Management Actions and Impacted Public Land Resources and Values (Units)	Current Situation	Alternative A: Existing Management Continuing as Future Management		Alternative B: Proposal for Future Management		Alternative C: Proposal for Future Management		Alternative D: Preferred Proposal for Future Management	
		Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation
<b>Ecological Status of Vegetation</b>									
· Early Seral Stage (acres)	293,514	213,734	-79,780	205,041	-88,473	205,041	-88,473	205,041	-88,473
· Mid Seral Stage (acres)	135,290	135,290	0	135,290	0	135,290	0	135,290	0
· Late Seral Stage (acres)	35,521	35,521	0	35,521	0	35,521	0	35,521	0
· Potential Natural Plant Community (acres)	0	0	0	0	0	0	0	0	0
· Grass Seedlings (acres)	153,879	233,659	79,780	264,745	110,866	169,704	15,825	169,704	15,825
· Mixed Seedlings (acres)	26,348	26,348	0	3,955	-22,393	98,996	72,648	98,996	72,648
Fish Habitat (stream miles)	N/A	46	46	97	97	97	97	97	97
Human Caused Fires (number/year)	41	47	6	48	7	46	5	46	5
Hunter Days	N/A	N/A	-4,596	N/A	-4,596	N/A	819	N/A	3,573
· Change in Contribution to Local Economy (Dollars/year)	N/A	N/A	-176,300	N/A	-176,300	N/A	31,400	N/A	145,400
<b>Land Tenure Adjustments</b>									
· Land to Acquire (acres)	0	0	0	3,016	3,016	4,333	4,333	3,016	3,016

Management Actions and Impacted Public Land Resources and Values (Units)	Current Situation	Alternative A: Existing Management Continuing as Future Management		Alternative B: Proposal for Future Management		Alternative C: Proposal for Future Management		Alternative D: Preferred Proposal for Future Management	
		Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation
· Land for Exchange only (acres)	6,672	6,672	0	3,015	-3,657	3,015	-3,657	36,044	29,372
· Land for Sale or Exchange (acres)	14,700	14,700	0	3,052	-11,648	3,052	-11,648	632	-14,068
· State In Lieu Selection (acres)	0	0	0	324	324	324	324	324	324
· Change in Payment in Lieu of Taxes (\$/year)	N/A	N/A	-1,470	N/A	-20	N/A	80	N/A	320
<b>Leasable Minerals</b>									
· Area Open to Leasing Without Stipulation (acres)	630,185	630,185	0	619,785	-10,400	619,785	-10,400	620,009	-10,176
· Area Closed to Leasing by Wilderness Study Area Interior Management Policy (acres)	19,350	19,350	0	20,619 1/	1,269	20,619 1/	1,269	20,619 1/	1,269
· Area Stipulated for No Surface Occupancy (acres)	251	251	0	10,651	10,400	10,651	10,400	10,427	10,176
· Geothermal Areas Stipulated for No Surface Occupancy (acres)	251	251	0	3,223	2,972	3,223	2,972	2,999	2,748

Management Actions and Impacted Public Land Resources and Values (Units)	Current Situation	Alternative A: Existing Management Continuing as Future Management		Alternative B: Proposal for Future Management		Alternative C: Proposal for Future Management		Alternative D: Preferred Proposal for Future Management	
		Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation
• Oil and Gas Areas Stipulated for No Surface Occupancy (acres)	251	251	0	2,387	2,136	2,387	2,136	2,387	2,136
Livestock Grazing Preference	N/A	N/A	-3,122	N/A	-639	N/A	-639	N/A	-6,626
• Potential Preference Changes resulting from Land Tenure Adjustments (animal unit months)	82,368	82,301	-67	79,777	-2,591	55,058	-27,310	55,058	-27,310
• Anticipated Total Active Preference Level (animal unit months)	N/A	N/A	-42,500	N/A	79,200	N/A	296,600	N/A	296,400
• Change to Ranching Industry Operating Costs (\$/year)									
Material Sales	934	934	0	6,133	\$,201	6,133	\$,201	4,998	4,066
• Area Closed to Material Sales (acres)	N/A	0	0	0	0	0	0	0	0
• Permits Affected by Closure (number)	648,852	648,852	0	643,653	-5,201	643,653	-5,201	644,788	-4,066
• Area Open to Material Sales (acres)									

Management Actions and Impacted Public Land Resources and Values (Units)	Current Situation	Alternative A: Existing Management Continuing as Future Management		Alternative B: Proposal for Future Management		Alternative C: Proposal for Future Management		Alternative D: Preferred Proposal for Future Management	
		Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation
<b>Mineral Withdrawl</b>									
· Withdrawl in Prospectively High Value Areas (acres)	0	0	0	0	0	0	0	0	0
· Withdrawl in Prospectively Moderate Value Areas (acres)	0	0	0	0	0	0	0	0	0
· Withdrawl in Prospectively Low Value Areas (acres)	0	0	0	0	0	0	0	0	0
· Total Mineral Withdrawl Area (acres)	0	0	0	11,170	11,170	19,899	19,899	10,605	10,605
· Claims in Withdrawl Area (number)	0	0	0	24	24	24	24	24	24
<b>Off-Highway Vehicles</b>									
· Area Open to Vehicle Use (acres)	649,323	649,323	0	572,968	-76,355	572,782	-76,541	574,230	-75,093
· Area Closed to Vehicle Use (acres)	463	463	0	4,078	3,615	4,133	3,670	3,671	3,208
· Anticipated Temporary Vehicle Closures (acres/closure year)	0	0	0	38,980	38,980	38,980	38,980	38,980	38,980
· Area Limited to Vehicle Use (acres)	0	0	0	72,740	72,740	72,871	72,871	71,885	71,885

Management Actions and Impacted Public Land Resources and Values (Units)	Current Situation	Alternative A: Existing Management Continuing as Future Management		Alternative B: Proposal for Future Management		Alternative C: Proposal for Future Management		Alternative D: Preferred Proposal for Future Management	
		Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation
<b>Recreation Opportunity Class</b>									
· Rural (acres)	9,887	10,162	275	10,162	275	9,922	35	6,402	-3,485
· Roaded Natural (acres)	112,924	103,910	-9,014	107,722	-5,202	108,857	-4,067	99,941	-12,983
· Semi-primitive Motorized (acres)	445,753	434,386	-11,367	447,578	1,825	447,578	1,825	428,993	-16,760
· Semi-primitive Non -motorized (acres)	81,222	80,093	-1,129	81,465	243	81,502	280	81,465	243
<b>Rights-of-Way</b>									
· Area Open for Rights -of-way (acres)	649,786	649,786	0	621,058	-28,728	620,872	-28,914	621,966	-27,820
· Avoidance Area for Rights-of-way (acres)	0	0	0	22,899	22,899	23,030	23,030	21,936	21,936
· Exclusion Area for Rights-of-way (acres)	0	0	0	5,829	5,829	5,884	5,884	5,884	5,884
<b>Riparian Areas</b>									
· Improved Riparian Areas (acres)	N/A	0	0	4,615	4,615	4,615	4,615	4,615	4,615
· Perennial Streams Affected (miles)	N/A	46	46	97	97	97	97	97	97
· Intermittent Streams Affected (miles)	N/A	182	182	388	388	388	388	388	388

Management Actions and Impacted Public Land Resources and Values (Units)	Current Situation	Alternative A: Existing Management Continuing as Future Management		Alternative B: Proposal for Future Management		Alternative C: Proposal for Future Management		Alternative D: Preferred Proposal for Future Management	
		Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation
• Livestock Use in Riparian Areas (animal unit months/year)	N/A	-700	-700	-1,470	-1,470	-1,470	-1,470	-1,470	-1,470
Soils									
• Off-site Sedimentation (tons/year)	2,664,123	2,663,733	-390	2,657,966	-6,157	2,657,966	-6,157	2,657,966	-6,157
• Wind Erosion (tons/year)	N/A <u>2/</u>	N/A	-3,076	N/A	312	N/A	292	N/A	263
Special Recreation Management Areas									
• Number of Designated Areas	5	1	-4	4	-1	5	0	4	-1
• Size of Designated Areas (acres)	68,807	5,668	-63,139	14,932	-53,875	40,755	-28,052	35,519	-33,288
Vegetation Production and Cover									
• Positive Effect (acres)	N/A	3,100	N/A	11,303	N/A	421,555	N/A	421,555	N/A
• Neutral Effect (acres)	N/A	46,904	N/A	73,354	N/A	179,990	N/A	179,990	N/A
• Negative Effect (acres)	N/A	599,782	N/A	565,129	N/A	48,241	N/A	48,241	N/A

Management Actions and Impacted Public Land Resources and Values (Units)	Current Situation	Alternative A: Existing Management Continuing as Future Management		Alternative B: Proposal for Future Management		Alternative C: Proposal for Future Management		Alternative D: Preferred Proposal for Future Management	
		Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation
Visitor Use (visitor hours/year)	736,600	902,800	166,200	922,510	185,910	883,100	146,500	877,853	141,253
· Change in Contribution to Local Economy (Dollars/year)	N/A	N/A	37,180	N/A	54,340	N/A	36,630	N/A	33,500
Visual Resource Management Class									
· Class I (acres)	241	241	0	241	0	241	0	241	0
· Class II (acres)	215,783	212,112	-3,671	215,741	1,758	218,070	2,287	216,923	1,140
· Class III (acres)	360,608	346,283	-14,325	356,211	-4,397	356,734	-3,874	332,238	-28,370
· Class IV (acres)	73,154	69,823	-3,331	72,421	-733	72,421	-733	66,515	-6,639
Wild & Scenic Rivers									
· Suitable Segments (miles)	0	0	0	0	N/A	17	N/A	0	N/A
· Nonsuitable Segments (miles)	0	0	0	17	N/A	0	N/A	17	N/A
· Pending Segments (miles)	0	0	0	42	N/A	42	N/A	42	N/A

Management Actions and Impacted Public Land Resources and Values (Units)	Current Situation	Alternative A: Existing Management Continuing as Future Management		Alternative B: Proposal for Future Management		Alternative C: Proposal for Future Management		Alternative D: Preferred Proposal for Future Management	
		Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation	Expected Situation in 20 Years	Change From Current Situation
<b>Wildlife Habitat</b>									
· Deer Crucial Winter Range (acres)	314,381	308,847	-5,534	312,791	-1,590	312,791	-1,590	312,795	-1,586
· Deer Yearlong Range (acres)	545,830	536,432	-9,398	547,752	1,922	547,796	1,966	547,752	1,922
· Elk Crucial Winter Range (acres)	172,699	172,389	-310	172,564	-135	172,564	-135	172,564	-135
· Elk Yearlong Range (acres)	470,789	464,591	-6,198	467,047	-3,742	467,091	-3,698	473,090	2,301
· Antelope Crucial Winter Range (acres)	240,001	232,019	-7,982	238,226	-1,775	238,266	-1,735	232,892	-7,109
· Antelope Yearlong Range (acres)	607,393	597,731	-9,662	609,338	1,945	609,382	1,989	609,338	1,945
· Sagegrouse Crucial Winter Range (acres)	150,000	149,732	-268	150,553	553	150,553	553	150,553	553
· Sagegrouse Yearlong Range (acres)	293,200	283,719	-9,481	295,122	1,922	295,166	1,966	295,122	1,922
Wildlife Isolated Tracts (acres)	6,349	6,349	0	6,765	416	6,896	547	5,802	-547
Wood Products, Closure to Harvest of (acres)	0	0	0	5,547	5,547	5,547	5,547	5,547	5,547

1/ There is a duplication of 1,399 acres in the Dry Creek Area of Critical Environmental Concern with a no surface occupancy stipulation for leaseable minerals, and the portion of the Gooding City of Rocks Wilderness Study Area closed to mineral leasing under the Interim Management Policy for Wilderness Study Areas.

2/ There are no estimates available on the total soil loss due to wind erosion. The values in the change column represent the best estimate of how proposed actions will increase or decrease soil wind erosion.

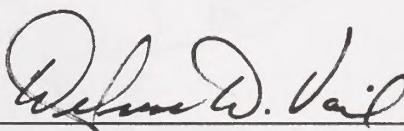
**DRAFT  
BENNETT HILLS  
RESOURCE MANAGEMENT PLAN**

**AND**

**DRAFT  
ENVIRONMENTAL IMPACT  
STATEMENT**

Prepared by

U.S. Department of the Interior  
Bureau of Land Management  
Shoshone District, Idaho

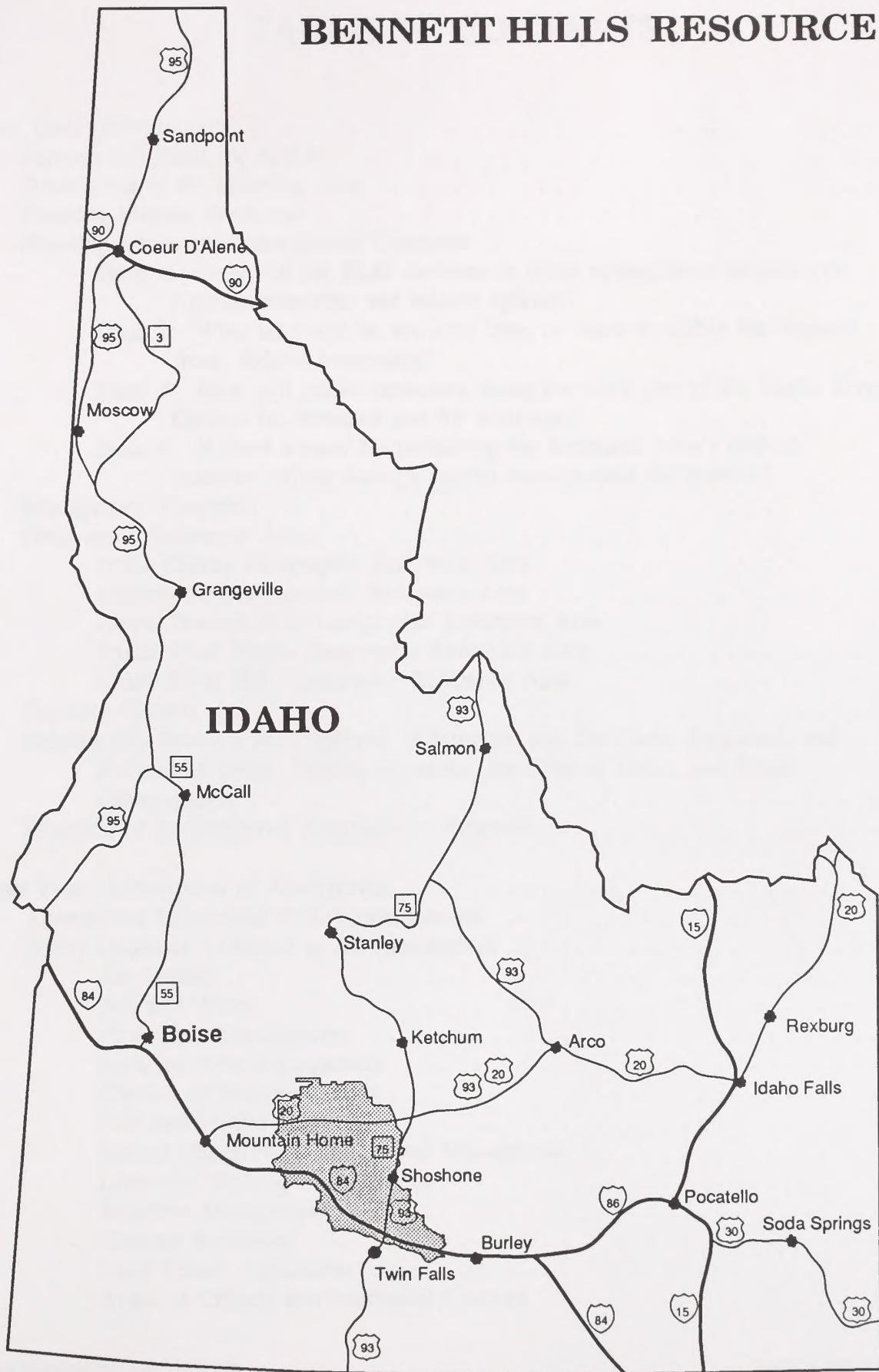


---

**Delmar D. Vail**  
State Director, Idaho



# BENNETT HILLS RESOURCE AREA



GENERAL LOCATION MAP



# TABLE OF CONTENTS

<b>Chapter One: Introduction . . . . .</b>	<b>7</b>
Purpose and Need for Action . . . . .	7
Description of the Planning Area . . . . .	7
Planning Process Overview . . . . .	8
Planning Issues and Management Concerns . . . . .	12
Issue 1: How will the BLM continue to focus management attention on riparian resources and related uplands? . . . . .	12
Issue 2: What land will be acquired into, or made available for disposal from, federal ownership? . . . . .	12
Issue 3: How will public resources along the north rim of the Snake River Canyon be managed and for what uses? . . . . .	12
Issue 4: Is there a need for protecting the Resource Area's critical resource values through special management designation? . . . . .	12
Management Concerns . . . . .	13
Geographic Reference Areas . . . . .	13
North Camas Geographic Reference Area . . . . .	14
Bennett Hills Geographic Reference Area . . . . .	14
Lower Bennett Hills Geographic Reference Area . . . . .	14
Snake River Plains Geographic Reference Area . . . . .	14
Snake River Rim Geographic Reference Area . . . . .	14
Planning Criteria . . . . .	16
Relationship Between the Preferred Alternative and the Plans, Programs, and Policies of Other Federal Agencies, the State of Idaho, and Local Governments . . . . .	16
Selection of the Preferred Alternative - Rationale . . . . .	17
 <b>Chapter Two: Description of Alternatives . . . . .</b>	 <b>19</b>
Alternatives Eliminated From Consideration . . . . .	19
Policy Guidance Common to All Alternatives . . . . .	20
Air Quality . . . . .	20
Soil and Water . . . . .	20
Floodplain Management . . . . .	20
Riparian Area Management . . . . .	20
Control of Noxious Weeds . . . . .	21
Fish and Wildlife Habitat . . . . .	21
Special Status Plant and Animal Management . . . . .	21
Livestock Grazing Management . . . . .	21
Selective Management . . . . .	22
Cultural Resources . . . . .	23
Land Tenure Adjustment . . . . .	23
Areas of Critical Environmental Concern . . . . .	24

Recreation . . . . .	24
Public Utilities . . . . .	25
Wilderness . . . . .	25
Wild and Scenic Rivers . . . . .	25
Minerals Management . . . . .	26
Hazardous Materials Management . . . . .	26
Fire Management . . . . .	26
Allowable Uses . . . . .	27
Detailed Management Plans . . . . .	27
Economic and Social Considerations . . . . .	27
Environmental Reviews . . . . .	27
Plan Maintenance . . . . .	28
Plan Monitoring . . . . .	28
Plan Amendments . . . . .	28
Plan Implementation . . . . .	28
Continuing Management . . . . .	29
Desired Future Vegetation Condition Common to Alternatives B, C and D . . . . .	29
Dealing With The Issues and Management Concerns . . . . .	31
Issue 1 - How will the BLM continue to focus management attention on riparian resources and related uplands? . . . . .	36
Issue 2 - What land will be acquired into, or made available for disposal from, federal ownership? . . . . .	45
Issue 3 - How will public resources along the north rim of the Snake River Canyon be managed and for what uses? . . . . .	48
Issue 4 - Is there a need for protecting the Resource Area's critical resource values through special management designation? . . . . .	51
Management Concerns . . . . .	62
 Chapter Three: Affected Environment . . . . .	83
History . . . . .	83
Planning Area General Description . . . . .	85
Climate and Air Quality . . . . .	85
Soils . . . . .	88
Water . . . . .	91
Topography and Geology . . . . .	103
Vegetation . . . . .	103
Noxious Plants . . . . .	104
Poisonous Plants . . . . .	104
Ecological Sites and Status . . . . .	107
Apparent Vegetation Trend . . . . .	107
Visual Resources . . . . .	108
Wildlife and Fish Habitat . . . . .	110
Habitat Management Plans . . . . .	112
Isolated Tracts . . . . .	112
Fisheries . . . . .	113

Special Status Animals . . . . .	120
Special Status Plants . . . . .	123
Forestry . . . . .	124
Livestock Grazing Management . . . . .	124
Horses and Burros . . . . .	126
Cultural Resources . . . . .	126
Lands . . . . .	126
Areas of Critical Environmental Concern . . . . .	128
Recreation . . . . .	130
Rights-of-Way . . . . .	137
Wilderness . . . . .	137
Wild and Scenic Rivers . . . . .	140
Leasable Minerals . . . . .	144
Geothermal Resources . . . . .	144
Locatable Minerals . . . . .	144
Salable Minerals . . . . .	145
Potential for the Occurrence of Mineral Resources . . . . .	145
Fire Management and History . . . . .	146
Social and Economic Conditions . . . . .	146
 Chapter Four: Environmental Consequences . . . . .	153
Assumptions for Analysis . . . . .	153
General Assumptions . . . . .	153
Livestock Grazing Management Assumptions . . . . .	153
Wild Fire Assumptions . . . . .	154
Vegetation Management Assumptions Unique to Alternatives B, C and D . . . . .	154
Wildlife and Fish Habitat Management Assumptions . . . . .	155
Public Land and Realty Management Assumptions . . . . .	156
Wilderness Management Assumptions . . . . .	156
Recreation Management Assumptions . . . . .	156
Economic Assumptions . . . . .	156
Existing Environmental Analysis . . . . .	156
Resources Not Affected or Impacted . . . . .	156
Impacts of Alternative A (No Action) . . . . .	159
Issue 1: How will the BLM continue to focus management attention on riparian resources and related uplands? . . . . .	159
Issue 2: What land will be acquired into, or made available for disposal from, federal ownership? . . . . .	163
Issue 3: How will public resources along the north rim of the Snake River Canyon be managed and for what uses? . . . . .	165
Issue 4: Is there a need for protecting the Resource Area's critical resource values through special management designation? . . . . .	166
Management Concerns . . . . .	167

Impacts of Alternative B . . . . .	180
Issue 1: How will the BLM continue to focus management attention on riparian resources and related uplands? . . . . .	180
Issue 2: What land will be acquired to, or made available for disposal from, federal ownership? . . . . .	193
Issue 3: How will public resources along the north rim of the Snake River Canyon be managed and for what uses? . . . . .	197
Issue 4: Is there a need to protect the Resource Area's critical resource values through special management designation? . . . . .	200
Management Concerns . . . . .	204
Impacts of Alternative C . . . . .	213
Issue 1: How will the BLM continue to focus management attention on riparian resources and related uplands? . . . . .	213
Issue 2: What land will be acquired into, or made available for disposal from, federal ownership? . . . . .	216
Issue 3: How will public resources along the north rim of the Snake River Canyon be managed and for what uses? . . . . .	218
Issue 4: Is there a need for protecting the Resource Area's critical resource values through special management designation? . . . . .	219
Management Concerns . . . . .	220
Impacts of Alternative D . . . . .	222
Issue 1: How will the BLM continue to focus management attention on riparian resources and related uplands? . . . . .	223
Issue 2: What land will be acquired into, or made available for disposal from, federal ownership? . . . . .	223
Issue 3: How will public resources along the north rim of the Snake River Canyon be managed and for what uses? . . . . .	224
Issue 4: Is there a need for protecting the Resource Area's critical resource values through special management designation? . . . . .	225
Management Concerns . . . . .	226
Impacts to Bruneau Resource Area . . . . .	228
Irreversible and Irrecoverable Commitments of Resources . . . . .	228
 Chapter Five: Consultation and Coordination . . . . .	229
Public Participation . . . . .	229
Key Dates . . . . .	229
Consistency Review . . . . .	230
Comment and Protest Procedures . . . . .	231
Agencies, Organizations and Individuals Consulted . . . . .	231
List of Preparers . . . . .	234
 Appendix A: Livestock Use Data . . . . .	237
 Appendix B: Reasonably Foreseeable Development Scenarios . . . . .	279
Scenario 1: Oil and Gas Exploration and Development Scenario . . . . .	279

Scenario 2: Off-Highway Vehicle Closures in Winter . . . . .	285
Scenario 3: King Hill Area Seasonal Closure . . . . .	285
Scenario 4: Thorn Creek Pilot Riparian Management Area . . . . .	285
Scenario 5: Wildlife Isolated Tracts . . . . .	287
Scenario 6: Reintroduction of Mountain Quail . . . . .	287
Scenario 7: Pronghorn Antelope Unimpeded Movement Measures . . . . .	288
Scenario 8: Biological Filtering Systems . . . . .	288
Scenario 9: Vegetation Manipulation . . . . .	289
Scenario 10: Reintroduction of Columbian Sharp-tailed Grouse . . . . .	293
Scenario 11: Backcountry Byways . . . . .	293
Scenario 12: Little City of Rocks Special Recreation Management Area . . . . .	293
Scenario 13: Magic Reservoir Special Recreation Management Area . . . . .	293
Scenario 14: River-to-the-Mountains Special Recreation Management Area . . . . .	294
Scenario 15: Snake River Rim Special Recreation Management Area . . . . .	295
Scenario 16: Mormon Reservoir Recreation Scenario . . . . .	295
Scenario 17: Temporary Non-renewable Livestock Use Scenario . . . . .	297
Scenario 18: Reasonable Foreseeable Scenario for Proposed Range Improvements . . . . .	297
Scenario 19: Beaver Reintroduction Scenario . . . . .	300
Scenario 20: Vineyard Lake Recreation Development Scenario . . . . .	300
Scenario 21: Timber Harvesting . . . . .	302
 Appendix C: Wildlife . . . . .	305
 Appendix D: Wild & Scenic Rivers Suitability Study Report . . . . .	315
 Appendix E: Monitoring and Evaluation Plan . . . . .	355
 Appendix F: General Vegetation Management Zones . . . . .	357
 Glossary . . . . .	375
 References . . . . .	383



# Chapter One: Introduction

## Purpose and Need for Action

The Bennett Hills Resource Management Plan (hereafter referred to as the plan) is being prepared to provide the Shoshone District Bureau of Land Management (BLM) with a comprehensive framework for managing 649,786 surface acres of BLM-administered public land in the Bennett Hills Resource Area over the next 15 to 20 years. This draft plan is developed to guide the management of public resources in accordance with the principles of multiple use and sustained yield, and other principles as outlined in BLM planning regulations. The plan is prepared under the authority of Sections 102 and 202 of the *Federal Land Policy and Management Act* (FLPMA) which requires the Secretary of the Interior to develop land use plans for all public land. The plan conforms to the BLM planning regulations in 43 CFR Part 1600.

The *National Environmental Policy Act* requires all federal agencies to prepare Environmental Impact Statements on major federal actions which may have significant affects to the human environment. This plan is considered a major federal action. Therefore, it is accompanied by an Environmental Impact Statement. The impact statement documents the environmental impact of implementing the preferred plan and other alternatives, and conforms to the Council on Environmental Quality regulations for implementing the *National Environmental Policy Act*.

The plan is focused on resolving four major planning issues and several management concerns associated with the management of the planning area's public land. These four planning issues were identified during the BLM's scoping process. The scoping process was designed to identify the issues and began on September 20, 1990, when the BLM published in the *Federal Register* a Notice of Intent to prepare a Resource Management Plan/Environmental Impact Statement. Following the issuance of the Notice Of Intent, the BLM held several public meetings and sent mail asking the public to identify issues that should be addressed in the plan and impact statement. See "Consultation and Coordination" in Chapter 5 for a detailed description of the scoping process.

This plan will replace land use planning decisions in two existing Management Framework Plans: Sun Valley (1981) and Bennett Hills/Timmerman Hills (1976), and one Resource Management Plan: Monument (1985), which have guided the BLM's management of public land in the planning area for the past 14 years. The Management Framework Plan and Resource Management Plan decisions that still have merit are being carried forward and are incorporated into this plan. This plan will also consider amending the Jarbidge Resource Management Plan (1987) to designate approximately 800 acres along 10 miles of the west side of King Hill Creek as an Area of Critical Environmental Concern in coordination with the same designation along the east side within the Bennett Hills planning area.

## Description of the Planning Area

The Bennett Hills Resource Area is located in south central Idaho, north of the Snake River and south of the Sawtooth National Forest. It is bordered on the west by King Hill Creek and on the east by the Willow Creek, Camas Creek, Big Wood River and the Milner/Gooding canal water systems.

Elevation of the area ranges from 2,500 feet near the town of King Hill to 6,800 feet on Davis Mountain. The terrain is typified by rocky hills cut by perennial or intermittent stream channels. Barren lava flows cover portions of the area. The area lies in the sagebrush-steppe physiographic region and native vegetation consists of sagebrush-bunchgrass (*Artemisia-Agropyron*), but large areas have been seeded to crested wheatgrass (*Agropyron cristatum* and *Agropyron desertorum*). Cheatgrass (*Bromus tectorum*) and Medusahead Rye (*Taeniatherum caput-medusae*) has invaded and is abundant throughout much of the area. Precipitation averages from 7 to 16 inches annually.

The planning area covers all or part of six counties. Table 1.1 shows a county-by-county public land acreage breakdown.

## Description of the Planning Area

TABLE 1.1  
Surface Ownership By County  
Within the Bennett Hills Resource Area  
Bureau of Land Management  
Shoshone District, Idaho

County	Public Acres	Private	State	TOTAL
Blaine	3,562	855	359	4,776
Elmore	50,368	43,553	17,267	111,188
Camas	114,663	210,692	17,021	342,376
Gooding	254,240	195,638	18,690	468,568
Lincoln	153,222	53,075	6,900	213,197
Jerome	73,731	197,735	5,486	276,952
<b>TOTAL</b>	<b>649,786</b>	<b>701,548</b>	<b>65,723</b>	<b>1,417,057</b>

Source: Shoshone District GIS (2/01/92)

NOTE: Ownership patterns are based on BLM Master Title Plats that do not show transfer of ownership from state to private. As a result, the actual number of state acres may be less and the number of private acres may be more than shown on this table or on Map 1.1.

## Planning Process Overview

The planning process involves nine interrelated steps which integrate *National Environmental Policy Act* requirements for environmental analysis. Public participation and an interdisciplinary approach are emphasized to insure issue orientation and comprehensive analysis. The nine steps are described below and graphically illustrated in Figure 1.1.

### Step 1: Issue Identification

This planning step is designed to identify major problems, concerns and opportunities associated with the management of public land in the planning area. Issues are identified by the public, the BLM and other government entities. The planning process is focused on resolving the identified planning issues.

### Step 2: Planning Criteria

Planning criteria are policies, laws, regulations and guidelines for resolving issues, developing alternatives and choosing the proposed plan.

### Step 3: Inventory and Data Collection

This step involves the collection and assembly of certain biological, physical, social or economic information needed to resolve the planning issues. The inventory information is used in determining how the public land resources will respond to each of the management alternatives.

### Step 4: Analysis of the Management Situation

The Analysis of the Management Situation identifies the ways the BLM currently manages the planning area's public land and identifies opportunities to better manage the land.

### Step 5: Formulation of Alternatives

At this point, the BLM formulates a range of alternatives for managing the resources in the planning area. The range of alternatives is developed to resolve the significant planning issues and to address specific management concerns in the planning area.

### Step 6: Estimation of Effects

This step involves estimating the environmental effects of implementing each of the alternatives. The estimated effects are described in order to allow for a comparative evaluation of impacts.

### Step 7: Selection of the Preferred Alternative

Based on information generated during steps one through six, the BLM identifies a preferred alternative. The draft plan and draft impact statement are then published and distributed for public review.

### Step 8: Selection of the Resource Management Plan

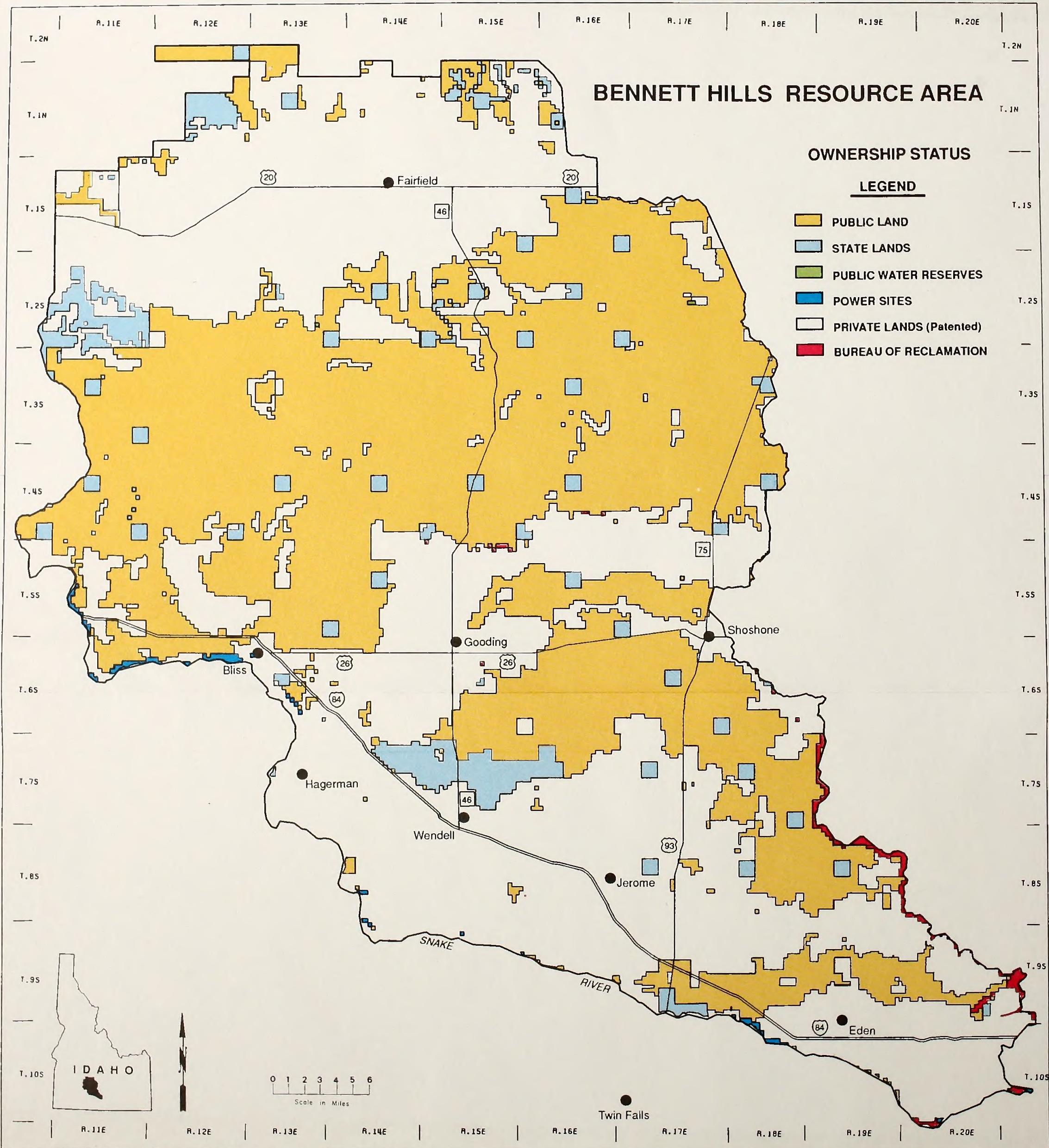
Based on the results of the public review and comment, the BLM will select a proposed resource management plan and publish it with a final impact statement. A final decision is made after a 30-day protest period following the impact statement publication of the proposed plan.

### Step 9: Monitoring and Evaluation

This step involves the collection and analysis of long-term resource condition and trend data to determine the effectiveness of the management actions taken to implement the plan. Monitoring will also identify how effective the plan is in resolving the identified issues and will help assure that implementation of the plan is achieving the desired results. Monitoring continues from the time the plan is adopted until changing conditions require a revision of the whole plan or any portion of it.

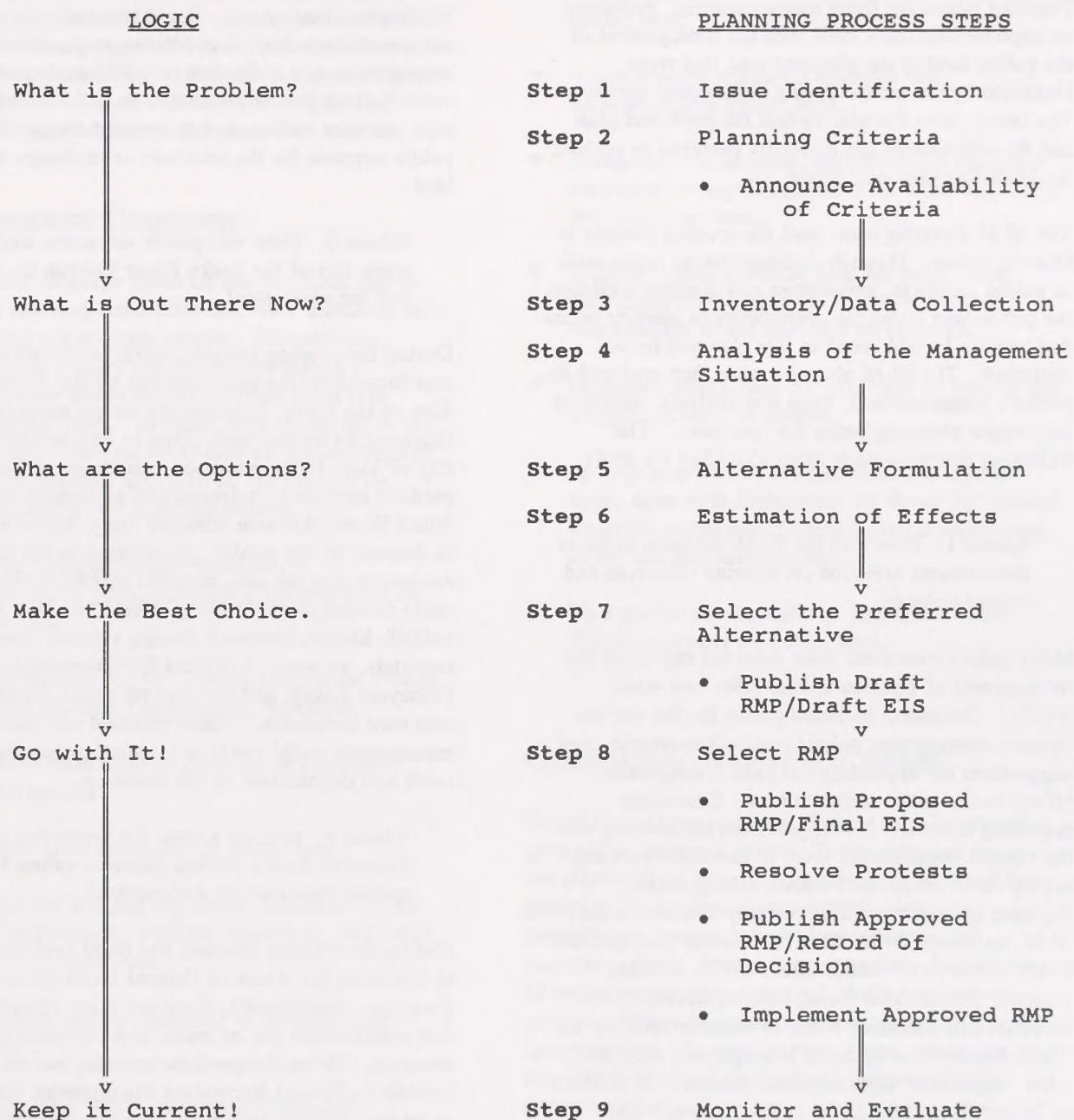








**FIGURE 1.1**  
**Steps in the Resource Management Planning Process**  
**Bureau of Land Management**  
**Shoshone District, Idaho**



## Planning Issues and Management Concerns

Planning issues are those major concerns, problems or opportunities associated with the management of the public land in the planning area that were identified by the public during the scoping process. The issues drive the plan in that the preferred plan and the alternatives are primarily designed to resolve the identified planning issues.

The BLM planning team used the scoping process to identify issues. Through communication media such as public meetings, newsletters and directed mailings, the public was given the opportunity to identify issues that need to be addressed in this plan and impact statement. The BLM planning team then analyzed the public's comments and, from this analysis, identified four major planning issues for resolution. The following describes each issue identified for study.

- Issue 1: How will the BLM continue to focus management attention on riparian resources and related uplands?

Many public comments were received regarding the management of riparian/upland areas and water quality. Comments included praise for the current riparian management policies and achievements, and suggestions for expanding the pilot management efforts to the entire resource area. Comments regarding livestock use ranged from satisfaction with the current management level to dissatisfaction and urging more intensive livestock management.

Riparian management is of primary concern to the BLM, as shown in the BLM's Riparian Management Policy (Fish and Wildlife 2000, 1987), and has received considerable management attention in the Bennett Hills Resource Area, as demonstrated by the Thorn Creek Pilot Riparian Management Area and other "showcase" riparian achievements. Of concern to the public and the BLM is the continued and expanded attention to riparian and upland resources.

- Issue 2: What land will be acquired into, or made available for disposal from, federal ownership?

The Shoshone District has entered into a conceptual plan for a land exchange program with the State of Idaho designed to block up land ownership for more efficient management and to acquire state land within Wilderness Study Areas. Land ownership adjustments are desired to achieve more efficient management and utilization of public resources, to identify areas that are desirable to BLM because of high resource values, and to respond to specific public requests for the purchase or exchange of public land.

- Issue 3: How will public resources along the north rim of the Snake River Canyon be managed and for what uses?

During the scoping process, much public attention was focused on the area bounded by the Snake River Rim on the south, Interstate 84 on the north and US Highway 93 on the west. Due to its proximity to the city of Twin Falls, increased recreation use, and the public's increased environmental awareness of the Snake River, this area contains many resource values in demand by the public. In addition to the high recreation use, the area contains significant historical value (remnants of the Oregon Trail) as well as wildlife habitat, livestock forage, saleable mineral materials, an Area of Critical Environmental Concern (Vineyard Lake), and portions proposed for exchange into state ownership. Uncoordinated and unfocused management could result in conflict among the public users and degradation of the resources.

- Issue 4: Is there a need for protecting the Resource Area's critical resource values through special management designation?

During the scoping process, the BLM received formal nominations for Areas of Critical Environmental Concern. Additionally, there are other special designations that can be made to focus management attention. These designations include, but are not limited to, Special Recreation Management Areas for providing specific recreation opportunities, Significant Caves to focus management attention on important cave resources, Conservation Areas or Research Natural Areas for the protection or enhancement of research opportunities, etc. Selection and use of the appropriate designation, if any, is based on evaluation

of the critical resource values. *The Wild and Scenic Rivers Act* (1968) requires the BLM to study and make recommendations on waterways for inclusion in the Wild and Scenic Rivers system. This planning effort will determine eligibility, tentative classification and interim management of Wild and Scenic Rivers as part of this issue. Suitability for segments of Dry Creek, King Hill Creek and Big Wood River has been determined as part of this plan.

## Management Concerns

Management concerns focus on use conflicts, law or policy, or resource conditions that were identified as issues during the scoping process. Nevertheless, these concerns require management attention to anticipate future needs and avoid developing into issues in future years. In most cases, these topics are neither highly controversial (based on public scoping) nor different between alternatives, but need to be fully considered in the planning process.

- Manage cultural values, historical, archaeological, and paleontological resources on public land.
- Use prescribed fire as a tool to help attain overall land and resource management objectives.
- Conserve threatened or endangered plant and wildlife species.
- Manage visual resources on public land.
- Manage the soil and vegetative resources for the needs of livestock, wildlife, watershed, and other resource requirements.
- Manage the public resources in an ecosystem context.
- Manage for a broad range of recreational opportunities and uses on public land.
- Provide for public outreach, awareness and education of natural resources and management by the BLM.

- Manage game and non-game wildlife habitat on public land.
- Participate in the control of noxious weeds on public land.
- Acquire water rights for multiple use management of public land.
- Designate land as open, avoidance, or exclusion for rights-of-way to minimize conflicts with other uses and resources.
- Provide access to public land for public and administrative purposes to improve use and management of the land and its resources.
- Designate public land for off-highway vehicle use as open, closed, or limited.
- Specify locations in the resource area that are open, open with limitations, or closed for mineral materials development, geothermal development, or oil and gas development.
- Manage the development of biological water filtering systems on public land.

## Geographic Reference Areas

The planning area has been divided into five specific geographic reference areas. These reference areas are displayed on Map 1.2, and were determined by grouping similarities in topography, elevation, precipitation, vegetation, ecological status and resource values. To the extent possible, boundaries of the reference areas were selected to include the greatest number of common resource concerns and opportunities. The process was not an exact one, but one which involved professional judgement and compromise.

Reference area boundaries separate areas which, because of different resource values and/or management opportunities or constraints, require different management guidance. The boundaries of the areas are not absolutely fixed and may be adjusted

## **Geographic Reference Areas**

in the future based on additional information gained during the formulation of activity plans.

### North Camas Geographic Reference Area

The boundary of this reference area extends from State highway 20 on the south to the U. S. Forest Service boundary on the north. Topography of the public land in this area is comprised of steep slopes rising to 6,800 feet in elevation. This geographic reference area receives the greatest amount of precipitation in the planning area, averaging 14 to 16 inches of annual precipitation. The broad vegetation types vary from conifer stands on the north and east facing slopes to mountain shrub and big sagebrush communities on the south and west facing slopes.

### Bennett Hills Geographic Reference Area

The northern boundary of this reference area is State Highway 20 with the southern boundary running along the lowest rimrock shelf running east and west through the Bennett Hills. The topography varies from flats south of Camas Creek to rolling hills bordered by basalt rimrock shelves in the southern region. Elevation near Fairfield begins at 5,050 feet, rises to 6,800 feet at the crest of the Bennett Hills, then drops to an average of 4,600 feet along the lowest rimrock shelf. This reference area normally receives between 12 to 16 inches of precipitation annually. The natural vegetation communities include alkali sagebrush, low sagebrush, big sagebrush, three-tip sagebrush and mountain shrubs. The location of these communities is based on topographic and soil related influences.

### Lower Bennett Hills Geographic Reference Area

The Lower Bennett Hills geographic reference area begins at the lowest rimrock shelf running east and west through the Bennett Hills and extends south to the sagebrush flats. Beginning near the upper reaches of Preacher Creek, the north boundary arches in a northeasterly direction to include a crucial deer winter range and the Black Butte Wilderness Study Area. The south boundary of the unit is formed by State

Highway 26 and the Little Wood River. The topography varies from isolated volcanic buttes to gentle slopes. Elevation ranges from 3,200 to 4,600 feet. This reference area normally receives 8 to 12 inches of annual precipitation. The natural vegetation community is comprised of big sagebrush with small inclusions of three-tip sagebrush and low sagebrush. A portion of this unit contains areas dominated by exotic annual grasses and forbs.

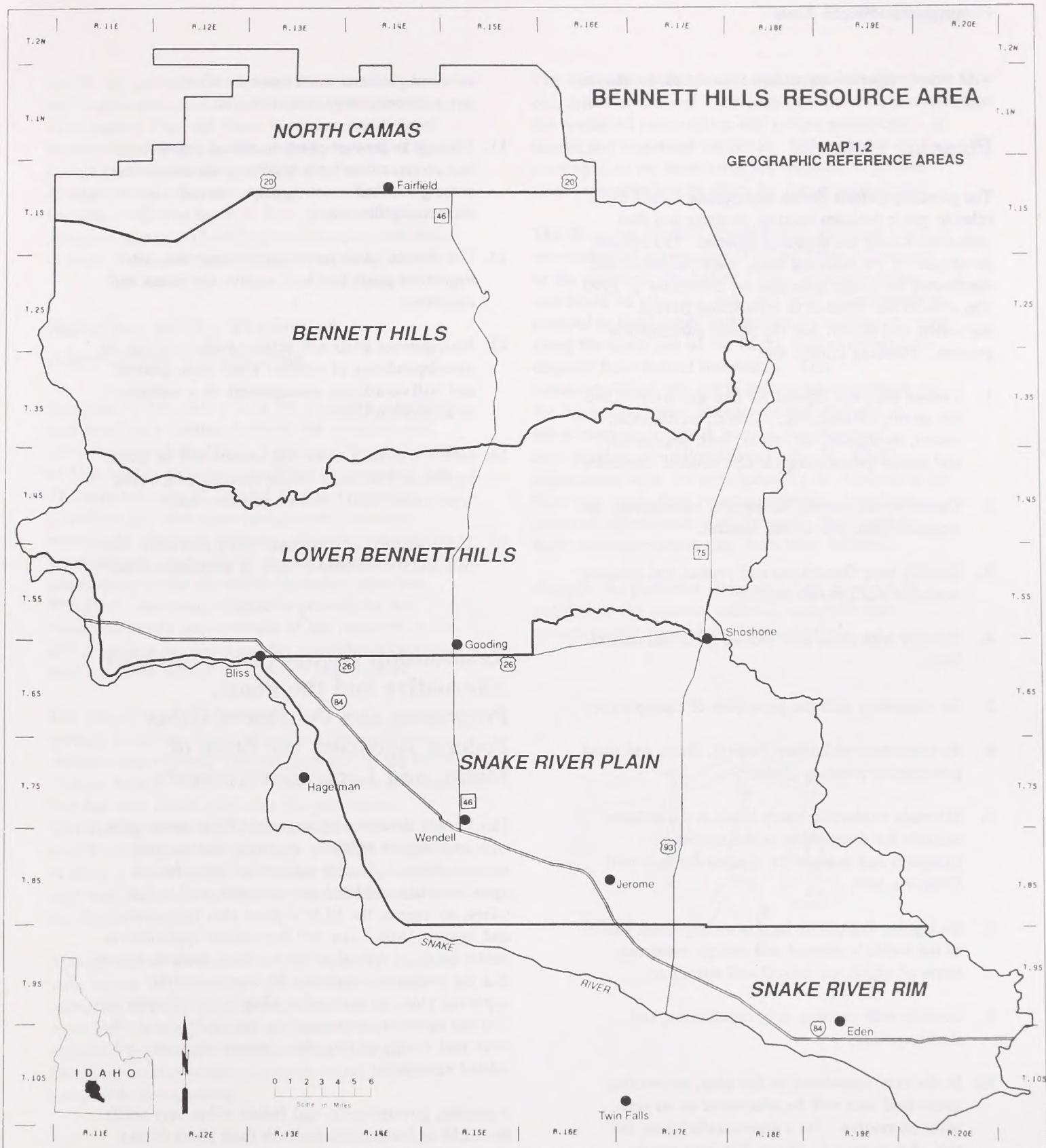
### Snake River Plains Geographic Reference Area

The Snake River Plains geographic reference area begins at State Highway 26 and the Little Wood River, and extends south to an east/west line running through the old settlement of Falls City. The boundary swings northwest where it meets the Snake River Rim and continues in that general direction along the canyon rim until it meets the western edge of the planning area. The topography of this reference area is gently sloping with scattered volcanic buttes. The elevation ranges from 3,200 to 4,100 feet. Annual precipitation for this area averages 8 to 10 inches. The natural vegetation community was once dominated by big sagebrush. Wild fire related seedings and past rangeland vegetation treatments have resulted in conversion of much of the public land in the reference area to crested wheatgrass seedings.

### Snake River Rim Geographic Reference Area

The Snake River Rim geographic reference area takes in the remaining area in this planning effort which is not contained in the other reference areas. With the exception of the uplands south of the division line running through Falls City, this unit is comprised of the land below the Snake River Rim.

The topography of this unit is generally steep with gently sloped areas on the Snake River plains and the alluvial deposits associated with the Snake River. Elevation ranges from 2,500 feet near the town of King Hill to 4,100 feet near Milner Dam. Effective precipitation ranges from 8 to 9 inches annually. The vegetation community is dominated by big sagebrush



with woody riparian vegetation adjacent to the stream course.

## Planning Criteria

The planning criteria define appropriate standards or rules to guide decision making, analysis and data collection during the planning process. The criteria, developed by the planning team, were published and distributed for public comment on December 1, 1990. The criteria are founded in legislation, Bureau regulation and policy, and the public participation process. Planning criteria are:

1. Protect food and habitat for fish and wildlife and the quality of scientific, cultural, recreational, visual, ecological, air, water, soil, vegetation, and scarce paleontological and mineral resources;
2. Conserve and protect threatened, endangered, and sensitive plant and animal species;
3. Identify base floodplains and protect and enhance wetlands and riparian habitat;
4. Comply with State and Federal pollution control laws;
5. Be consistent with the principles of multiple use;
6. Be consistent with other Federal, State, and local government plans or goals;
7. Maintain wilderness study areas in a condition suitable for designation as wilderness by Congress and manage for nonimpairment until Congress acts;
8. Recognize that public land is an important source of the nation's mineral and energy resources, some of which are critical and strategic;
9. Comply with existing law, regulations, and Bureau policy;
10. In the area considered in this plan, no existing authorized uses will be eliminated as an area-wide alternative. On a site-specific basis, the mix of uses may be adjusted in response to

sensitive environmental areas or where environmental degradation occurs;

11. Manage to prevent plant or animal populations and communities from becoming threatened or endangered and encourage species and community diversity;
12. Use desired plant community concepts to set vegetative goals that best resolve the issues and concerns;
13. Management goals and actions will recognize the interdependence of riparian areas with uplands and will coordinate management on a watershed or ecosystem basis;
14. Interdisciplinary goals and actions will be listed by natural resources within specific geographic areas rather than listed by resource use.
15. The plan will not designate utility corridors, but will specify exclusion, open or avoidance areas.

## Relationship Between the Preferred Alternative and the Plans, Programs, and Policies of Other Federal Agencies, the State of Idaho, and Local Governments

The BLM's Resource Management Plans must agree with and support officially approved and adopted resource-related plans or policies of other federal agencies, state and local governments, and Indian tribes, so long as the BLM's plans also agree with and support federal law and regulations applicable to public land. A special effort has been made to assure that the preferred alternative is consistent with approved plans as outlined in Chapter 4. Chapter 5 lists the agencies, organizations, and individuals who were sent a copy of this plan, impact statement and related materials.

Agencies, governments, and Indian tribes may notify the BLM of inconsistencies with their plans during

the 90-day public review period for this draft plan and impact statement. The Proposed Resource Management Plan and Final Environmental Impact Statement will document inconsistencies and, if they cannot be resolved, will explain why the inconsistencies exist and cannot be resolved. The Governor will also have 60 days to review the proposed plan and identify inconsistencies with State or local plans, policies, and programs.

## **Selection of the Preferred Alternative - Rationale**

Selection of Alternative D as the preferred alternative was based on a balance between the economic and cultural basis of the Magic Valley and the attainment of high quality resource conditions as a national goal. The establishment of Desired Future Vegetation Condition provides clear management direction through the planning horizon. Specific management proposals can, and will, be assessed on the merits of contributing to the described vegetation objective. The plant community objectives provide for the continued steady improvement of the resource, while still providing for the economic dependence on public land resources within the Magic Valley region.

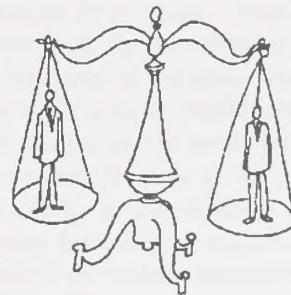
The reduction of livestock preference to the nine-year average actual use levels allows for the continued resource improvement that has occurred as the result of these levels. Also, it maintains the economic base that has been established over the past decade. Establishing the nine-year average actual use as the base livestock use level provides the BLM flexibility to balance the economic and social demands on public land with the desire for healthy natural resources in the Magic Valley.

Making 36,000 acres available for exchange with the state allows for the consolidation of land patterns providing more efficient management for both agencies. Exchange provides the BLM the opportunity to acquire sensitive areas (such as inholdings within wilderness study areas) to ensure compatible management.

The designation of six new, and expansion of two old, Areas of Critical Environmental Concern insures the continued preservation and proper management of unique and important resources. Management prescriptions for these areas are intended to ensure these resources will be there for future generations.

The Shoshone District Multiple Use Advisory Council recommended Alternative D to the District Manager as the preferred alternative. This recommendation was based on allowing state and local governments to respond to local needs and wishes by making the area along the north rim of the Snake River available for disposal from federal ownership. This recommendation was made before the completion of the impact analysis. Because of that analysis, adjustments to livestock grazing levels were incorporated into Alternatives C and D. These adjustments were not anticipated by the Council at the time they made their recommendation. Had these livestock adjustments been known to the Council, their recommendation may have been different.

Overall, the preferred alternative best provides for stability of the custom, cultural, economic and environmental base of the Magic Valley.





## **Chapter Two: Description of Alternatives**

Four land use plan alternatives, including the preferred Resource Management Plan, are described in detail in this chapter. Each alternative represents a complete plan to guide future management of the public land in the Bennett Hills planning area. The planning issues and criteria discussed in Chapter 1 were used to guide the development of each alternative. This chapter also includes a section identifying management policy and actions common to all alternatives.

The Magic Valley has a "quality of life" that makes it a desirable place to live and visit because of a small-town rural lifestyle with associated values and ethics, and the rugged beauty of the land. The ability and opportunity to experience nature and recreate out-of-doors without incurring major obstacles, without traveling long distances and without crowding is highly valued by residents and attractive to people not living in the valley. While the rural lifestyle and outdoor recreation opportunities are important to inhabitants, it is also necessary to have the basic human needs met locally.

To sustain this quality of life a healthy, functioning environment and viable economy must be maintained or enhanced. Successful management of public land would maintain or improve the environment and the economic base. Public land must maintain a naturally functioning ecosystem while providing outstanding recreational opportunities and sustainable livestock forage. A spectrum of recreational opportunities is desirable to both the resident and the visitor. A diversity of plant and animal species, functioning riparian areas, legal accesses, and the opportunity for solitude enhances the enjoyment of the natural, outdoor experience on public land. Also, this diversity of plant species and functioning riparian areas contributes to the habitat requirement and forage supply of domestic and wild animals. Recognition and designation of areas with special and unique resources benefit present and future generations by preserving and showcasing those resources.

To provide for the environmental and economic elements necessary to sustain this quality of life, the BLM has devised four alternatives for management of the public land. Each alternative provides for the values identified above, but differs in the distribution and emphasis of use of the public resources.

Alternative A is the "no action" alternative and would continue the current management subject to new policy direction by the BLM's State and Washington Offices. Alternatives B and C differ in the management of the north rim of the Snake River and designation of river segments as suitable for consideration by Congress for inclusion in the Wild and Scenic Rivers System. Alternative D reflects a conceptual agreement between the BLM and the State of Idaho for land exchange. Alternative D is the BLM's preferred alternative.

### **Alternatives Eliminated From Consideration**

Other alternatives considered, but dropped, are listed below.

**Maximum Preservation:** The Magic Valley economy is heavily based on agriculture. Maximum preservation would severely affect some residents of the valley and is inconsistent with the development history of the valley and the wishes of the public expressed during scoping for this plan. For these reasons this alternative was not considered reasonable.

**Maximum Production:** This alternative would be consistent with the development, history and economic structure of the area. However, the impacts to water quality, wildlife habitat, riparian areas, and recreation use would be severe. Maximum production would severely affect some residents of the valley due to an unsustainable level of resource use. Scoping for this plan suggested that primitive or semi-primitive recreation opportunities are important to the public. Maximum development generally is not compatible with semi-primitive or primitive recreation and is therefore not considered a reasonable alternative.

## **Policy Guidance Common to All Alternatives**

The development and implementation of this plan has been and will continue to be guided by federal and state laws, rules, regulations, and cooperative and legal agreements. This section describes standard operating procedures, policies, and management guidelines applicable, no matter which alternative is selected for use.

### **Air Quality**

Under the *Clean Air Act* (1977 and 1990, as amended), BLM-administered land was given Class II air quality classification, which allows moderate deterioration associated with moderate, well-controlled industrial and population growth. BLM will manage all public land as Class II unless it is reclassified by the state because of the procedures prescribed in the *Clean Air Act* (as amended). Actions on the public land will comply with the air quality classification for that specific area.

### **Soil and Water**

The BLM objective is to insure that all water on public land meets or exceeds federal and state water quality standards through application of approved "best management practices." Generally, the BLM deals with non-point sources of pollution which are addressed in Section 208 of the *Federal Water Pollution Control Act Amendments of 1972*. The Environmental Protection Agency has designated various agencies within the state as having the responsibility for Section 208 planning. These agencies assess non-point sources of pollution and prepare water quality management plans. Management actions within the planning area will conform to *Idaho Non-point Source Management Program* (1989) and *Coordinated Non-point Source Water Quality Monitoring Program for Idaho* (1990). These programs are prepared by the Idaho Division of Environmental Quality based upon provisions of the August 1988 Antidegradation Agreement for Idaho.

Facilities and structures may be developed. They are designed to maintain or improve existing water sources, provide new water sources, water levels,

water flow characteristics, or water quality. The BLM will work closely with the Idaho Department of Water Resources, the Idaho Department of Health and Welfare, the U.S. Army Corps of Engineers, and other local, state, and federal agencies to determine appropriate location and designs for such projects. Actions will be taken to meet emergency watershed needs resulting from flooding, severe drought, or fire.

### **Floodplain Management**

*Executive Order 11988* directs federal agencies to "avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development whenever there is a practicable alternative" (*Floodplain Management Guidelines*, 43 CFR Part 6030, 1978). It is BLM policy to retain and manage base (100-year) floodplains except: 1) where federal, state, public and private institutions and parties have shown the ability to maintain, restore and protect the floodplain on a continuous basis; or 2) where transfer of land, minerals or subsurface estates is mandated by legislation or Presidential Order. *Executive Order 11990* directs each agency to "take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands..."

### **Riparian Area Management**

The objective of riparian area management is to maintain, restore, or improve riparian values to achieve a healthy and productive area for maximum long-term benefits. To meet this objective, the BLM will:

Achieve riparian area improvement and maintenance goals through the management of existing uses.

Ensure that new activity plans, and existing plans when revised, recognize the importance of riparian values, and initiate management to maintain, restore, or improve them.

Prescribe management for riparian values that is based upon site-specific characteristics and settings.

Give special attention to monitoring and evaluating activities in riparian areas and revise management practices where site-specific objectives are not being met.

Cooperate with and encourage the involvement of interested federal, state, and local governments and private parties to share information. Carry out management, coordinate activities, and provide education on the value, productivity, and management of riparian areas.

Retain riparian areas in public ownership unless disposal would be in the public interest, as determined in the land use planning process.

Identify, encourage, and support research and studies needed to ensure that riparian area management objectives can be properly defined and met.

## Control of Noxious Weeds

The BLM will control the spread of noxious weeds on public land and eradicate them where possible and economically feasible. The Shoshone District will work with their respective county government agencies to monitor the location and spread of noxious weeds and to maintain up-to-date inventory records.

Where weed control is warranted, the BLM will consider alternatives such as herbicide applications, plow and seed, burn and seed, livestock grazing strategy, and biological controls. Coordination with adjoining land owners will be pursued as appropriate. Herbicide applications will be applied under directions of a Licensed Pesticide Applicator according to the *Federal Insecticide, Fungicide and Rodenticide Act* of 1984 (as amended).

The goal will be to prevent the introduction and establishment of specific weed species in areas not currently infested.

## Fish and Wildlife Habitat

BLM will manage fish and wildlife habitat on the public land. The BLM has identified goals and objectives for wildlife habitat management in an initiative called *Fish and Wildlife 2000*, which places greater emphasis on the management and enhancement of wildlife habitat. Additionally, strategy plans for habitat management have been prepared at the state and district level to help carry out the goals and objectives of the national plan. All BLM management actions will comply with state laws.

## Special Status Plant and Animal Management

Wildlife and plants that are federally listed as either threatened or endangered are protected under provisions of the *Endangered Species Act of 1973*, as amended. Any actions authorized, funded or carried out by a federal agency that may affect listed or proposed species are reviewed in cooperation with the U.S. Fish and Wildlife Service. It is BLM policy to avoid jeopardizing the continued existence of any listed or proposed species and to actively promote species recovery. It is also BLM policy to manage federal candidate and other special status species and their habitat to prevent the need for listing as threatened or endangered.

An impact analysis for threatened, endangered, or special status plants and animals will be conducted for areas affected by specific projects and their alternatives before project implementation. The presence of a threatened, endangered, or special status plant or animal species could result in project mitigation or cancellation. In case a listed or proposed species is found, the project will be suspended until completion of "Section 7 consultation" with the U.S. Fish and Wildlife Service.

## Livestock Grazing Management

The grazing program in the planning area is managed under provisions of the *Taylor Grazing Act of 1934*, the *Federal Land Policy and Management Act of 1976*

and the *Public Rangelands Improvement Act of 1978*. These acts provide authorization for issuing grazing permits, unauthorized use detection and abatement, use supervision, livestock grazing management, range improvement facilities and treatments, and other actions.

Within each grazing allotment, a grazing preference would be established at a level that will assure that sufficient vegetation is reserved for purposes of providing for wildlife and nonconsumptive uses.

All livestock use adjustments will be done through documented mutual agreement or by decision only after consultation, coordination, and cooperation with the affected livestock operators and other affected interests. All livestock use adjustments will be made in accordance with current regulations.

A variety of range improvements, grazing systems, and other range management practices may be considered with livestock management on individual allotments. Such practices will be based on the selective management category (maintain, improve, custodial) in which the allotment has been placed and will be formulated in consultation, coordination, and cooperation with livestock operators and other interested parties.

The extent, location, and timing of improvements will be based on the allotment-specific management objectives adopted through the resource management planning process, interdisciplinary development and review of proposed actions, operator contributions and BLM funding capability.

All range improvement projects will be subjected to an economic analysis. The analysis will be used to develop a final priority ranking of allotments for commitment of the range improvement funds that are needed to carry out activity plans. The highest priority for implementation generally will be assigned to those improvements with the greatest anticipated benefits compared with the expected improvement costs.

## Selective Management

Selective management, as applied to the rangeland program, is the categorization of grazing allotments into three groups based on similarities of resource characteristics, management needs, and economic and resource-based potential for rangeland improvement. All livestock grazing allotments have been categorized as "I" (Improvement needed), "M" (Maintain), or "C" (Custodial management) based on the following criteria and additional criteria developed from issues specific to the planning area (see Table A-3 in Appendix A).

**Improve (I) Category:** Category "I" allotments presently include unsatisfactory resource conditions, have the greatest potential for improvement, and may have serious resource conflicts. The principal objectives for the improve category allotments is to improve existing resource conditions because land use or resource conflicts exist. Present ecological status is generally in an early to mid seral stage. Present grazing management practices are inadequate to meet long-term resource objectives and resolve resource conflicts. These allotments have potential for improved vegetation productivity, but are not producing near their potential. There is a potential for positive economic return on public investments.

**Maintain (M) Category:** Category "M" allotments are in satisfactory resource condition, are producing near their identified potential, and have no known or anticipated resource use conflicts. The principal objectives for these allotments is to maintain or improve the existing situation. The potential exists for positive economic return on public investments.

**Custodial (C) Category:** Category "C" allotments do not present management problems, despite condition, and present no significant potential for increasing production. Resource conflicts are nonexistent or are outweighed by other considerations. The principal short-term objective for the custodial category allotments is to maintain current resource conditions by

managing the land under the range program in a trusteeship manner. Resource conflicts are limited. Opportunities for positive economic return from public investment do not exist, or are constrained by technological or economic factors.

The order of the categories discussed above represents the relative order of priority for the investment in range improvements and conducting of range monitoring studies, subject to user contributions and further consultation. Selective management within the rangeland program will provide a framework from which prudent expenditure of rangeland investments can be made, consistent with an approved land use plan.

## Cultural Resources

Cultural resources on public land are protected under an array of laws and regulations. Three of the most important laws are the *Federal Land Policy and Management Act*, the *National Historic Preservation Act* of 1966 and the *Archaeological Resources Protection Act* of 1979, as amended in 1992. Under the *Federal Land Policy and Management Act*, the BLM is directed to protect and preserve the scientific values of paleontological, archaeological and historic sites. Under the *National Historic Preservation Act*, potential impacts to National Register and National Register-eligible properties are identified. Impact mitigation measures are developed in consultation with the Idaho State Historic Preservation Officer and the Advisory Council on Historic Preservation. The *Archaeological Resources Protection Act* prevents excavation, removal or damage of archaeological resources from public land by unauthorized individuals. Since 1985, the BLM in Idaho has also operated under terms of a general compliance Programmatic Memorandum of Agreement with the state, which guides inventory and data recovery procedures for sites on all public land. A specific Memorandum of Agreement addresses the protection of cultural resources in BLM/State land exchanges.

## Land Tenure Adjustment

Unless specifically identified as an adjustment area, public land will be retained in federal ownership.

Public land in adjustment areas identified through the planning process is available for transfer from federal ownership. Final transfer from BLM jurisdiction, however, is subject to a decision by the authorized officer, based on detailed analysis and such documentation as prescribed by law or regulation.

Mineral-in-character land, wilderness study areas, and designated wilderness areas will not be included in adjustment areas.

The BLM will manage adjustment areas until transfer of title occurs. Management actions will be taken as necessary to meet resource or user needs. Public investments in adjustment areas will be kept to a minimum.

All public land in the planning area is placed into the following management or adjustment areas.

**Management Areas:** BLM-administered land will remain in federal ownership unless identified for disposal through the land use planning process. These lands will be managed for multiple use purposes, and will meet one or more of the following criteria:

- high resource values, e.g., crucial/critical wildlife habitat, high mineral potential, paleontological;
- a consolidated land pattern;
- special designations, e.g., Resource Natural Areas, Areas of Critical Environmental Concern, Wilderness Study Areas, Eligible or Suitable Wild or Scenic River segments;
- protection by federal law, e.g., Wild Horse Management Areas, Wild and Scenic Rivers;
- Executive Order or policy, e.g., floodplains, riparian, wetlands;
- other locally important values or natural systems that merit long-term ownership, e.g., access to National Guard maneuver areas, Special Recreation Management Areas;

## Policy Guidance Common to All Alternatives

- land encumbered with properly recorded unpatented mining claims;
- land withdrawn for the Bureau of Land Management or other agencies.
- land contaminated or possibly contaminated with hazardous materials.

**Adjustment Area:** Some public land is considered unnecessary for long-term public ownership. This land may be disposed of through sale, exchange, Desert Land Entry, Carey Act, Recreation and Public Purposes Patent, Airport Grant, and State Indemnity Selection. Using the land for exchange to enhance the resource values in the management area will be the priority. This land may be used to meet other local, regional or state needs.

The land will meet one or more of the following criteria:

- generally fragmented land patterns;
- difficult and uneconomic to manage;
- relatively inaccessible to the public;
- contain no known important natural resource values;
- land identified for sale must meet one of the following criteria from section 203 of the *Federal Land Policy Management Act*:

Is difficult and uneconomic to manage,

The tract is no longer needed for the purpose for which it was acquired,

Disposal of the tract would serve important public objectives.

## Areas of Critical Environmental Concern

Areas of Critical Environmental Concern are established through the planning process as provided in the *Federal Land Policy and Management Act* for

"...areas within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards."

It is anticipated that additional nominations for Areas of Critical Environmental Concern will be received. As nominations are received, and as data becomes available, those areas will be evaluated to determine if they meet BLM criteria for special designation. Suitability of those areas will be considered through the BLM's planning process.

## Recreation

The BLM will manage recreation on the public land and, under the BLM initiative *Recreation 2000*, will place greater emphasis on the management of recreation opportunities. The BLM may develop and maintain various recreation facilities on public land such as campgrounds, picnic areas, boat launches, etc., and some areas may be subject to special restrictions to protect resources, or eliminate or reduce conflicts among uses. Special restrictions may include, but are not limited to, requiring special recreation use permits, permitting activities of commercial outfitters, and setting up fee use areas. Recreation facilities are provided to meet existing or anticipated demand.

The visual or scenic values of the public land will be considered whenever any physical actions are proposed on BLM land. The degree of alterations to the natural landscape will be guided by criteria established for the four Visual Resource Management Classes as outlined in current BLM manuals.

**Motorized Vehicle Access and Use:** It is the BLM's policy that all public land should be open to motorized vehicle use unless a compelling reason is identified to restrict or eliminate motorized vehicle use. Through the planning process, public land is placed in one of three categories for purposes of controlling motorized vehicle access: open, limited,

and closed. Guidelines for these categories are as follows:

Open. Motorized vehicles may travel anywhere.

Limited. Motorized vehicles are permitted, subject to specified conditions such as seasonal limitations, speed limits, and designated routes of travel as developed during subsequent activity planning.

Closed. Motorized vehicles are prohibited.

## Public Utilities

Generally, public land may be considered for installation of public utilities, except where expressly closed by law or regulation. Project approval will be subject to the preparation of an environmental assessment or environmental impact statement. In the planning area, rights-of-way in common will be used whenever possible. Utility developments would be prohibited in wilderness study areas.

## Wilderness

Only Congress can designate an area as Wilderness. The BLM recommends areas suitable or nonsuitable for preservation as wilderness. Those recommendations are subject to the final consideration by the Secretary of the Interior and the President before being submitted to Congress. Until Congress acts on the President's suitability recommendations, the BLM will manage areas recommended as suitable or nonsuitable according to the Interim Wilderness Management Policy. After Congress acts, a different policy will apply, depending on if Congress designates an area Wilderness.

Areas designated Wilderness by Congress will be managed according to BLM Wilderness Management Policy. Following designation, specific management provisions will be formulated in a Wilderness Management Plan developed for each area.

Areas found by Congress to be nonsuitable for Wilderness will be managed for other purposes. A management scheme developed during this planning

process will be carried out following Congressional action on the President's suitability recommendations.

## Wild and Scenic Rivers

The 1968 *Wild and Scenic Rivers Act* (PL-90-542) established national policy to preserve selected rivers and their immediate environments, possessing "outstandingly remarkable values," for present and future generations. The Act further established the National Wild and Scenic Rivers System and named eight rivers to be included as initial components of the system.

Many additional rivers have since been included in the system. A river can be *eligible* for inclusion in the system only if it is free-flowing and possesses one or more outstandingly remarkable value in the following categories: scenic, recreational, geologic, fish, wildlife, historic, cultural, or other similar values. Rivers meeting these criteria are classified into one of three categories:

Wild - rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. Roads, dams, or diversion works are generally absent from a quarter mile corridor on both sides of the river.

Scenic - rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines largely undeveloped, but accessible in places by roads.

Recreational - rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

These three classes are listed in order of decreasing pristine conditions.

At the time a river stretch is determined eligible, appropriate interim protection measures will be made for the river segment. Next, the river is evaluated for its suitability for inclusion in the system through a

study process and report. The report compares the positive and negative aspects of inclusion of the river in the system. Documentation on suitable river segments is then forwarded to Congress for consideration. Once a river is designated by Congress, it is officially part of the National Wild and Scenic Rivers System.

## Minerals Management

Mineral exploration and development are generally encouraged on public land in keeping with the BLM's multiple resource concept and subject to applicable regulations, and federal and state laws. Overall guidance on the management of mineral resources appears in the *Mining and Minerals Policy Act of 1970*, Section 102(a)(12) of the *Federal Land Policy and Management Act* and the *National Materials and Minerals Policy*. Guidance is also found in the *Research and Development Act of 1980*, BLM's *Minerals Resources Policy* of May 29, 1984, *Mineral Leasing Act* of 1950 and the *1872 Mining Law*.

**Locatable Minerals:** Location of mining claims by claimants is a nondiscretionary action on all public land that is open to location. Exploration for and development of locatable minerals is provided for under the regulations 43 CFR Parts 3802 and 3809. These provide for mineral activities together with other resource development. They are designed to prevent unnecessary and undue degradation and to limit the impacts of mining while deriving their maximum benefit.

**Saleable Minerals:** The sales of mineral materials to the public will be administered with appropriate mitigating measures and stipulations to protect other resource values. Generally, saleable minerals are sold at market prices. Free use permits will continue to be issued to the state and local communities and qualifying entities as the need arises.

**Leasable Minerals:** The regulatory framework for the issuance of mineral leases is found in 43 CFR, Parts 3100 to 3500. These regulations apply where public interest exists for the development of oil, gas, sodium, potassium and geothermal

resources. Where required, stipulations will be attached to leases to mitigate impacts to sensitive species, cultural areas and other resources susceptible to impacts related to leasing activities.

## Hazardous Materials Management

BLM's responsibilities for hazardous materials management are derived in part from *The Resource Conservation and Recovery Act of 1976* (RCRA), amended in 1984 by the *Hazardous and Solid Waste Act*, and from *The Comprehensive Environmental Response, Compensation and Liability Act of 1980* (CERCLA) - also known as *Superfund* - amended in 1986 by the *Superfund Amendments and Reauthorization Act* (SARA).

Under these laws, BLM is responsible for contaminated sites if: 1) BLM authorizes an activity that results in contamination such as sanitary landfills, or 2) when no other viable party can be found, e.g., "midnight dumps."

The goals for effectively managing hazardous materials on public land include safeguarding the public and employees, protecting natural resources, minimizing land disposal of hazardous materials and wastes, and complying with environmental laws.

## Fire Management

The present BLM policy is to aggressively suppress all new fires on or threatening public land. Exceptions to this policy occur where management has analyzed alternatives to full suppression and prepared a written course of action before fires occur. These plans are termed Limited Suppression Plans and they establish criteria under which fires may be allowed to burn with little or no suppression action.

Less than full suppression also occurs whenever multiple fires ignite simultaneously. In these situations, priority is decided by value-at-risk. These values are predetermined by evaluating each resource separately to figure out beneficial or detrimental effects fire has on that resource. A numerical rating is given each resource. A plus rating is given for detrimental effects and a minus rating given for

beneficial effects. After each resource has been evaluated individually, the totals are summarized to establish the values. Crews are dispatched to fires with the highest values until all crews are used. Fires with lower values may have delayed suppression times.

Less than full suppression may also occur whenever fires ignite in an area proposed for prescribed fire. These fires may be allowed to burn with little or no suppression action, but only when conditions are within the limits specified in approved, site-specific prescribed burn plans.

The BLM cooperates with adjacent land owners on a case-by-case basis to reduce fire hazard where efforts are cost effective and the results will benefit BLM's fire management program. Cooperative efforts may range from consulting with private land owners on hazard reduction plans, to developing cooperative agreements and performance of hazard reduction.

The suppression policy of the Shoshone District is to extinguish fires with the least amount of surface disturbance possible. Whenever burning conditions and terrain do not allow direct attack, the suppression strategy is to burn out from existing natural barriers and established control point, such as roads.

Surface disturbing equipment (bulldozers) is used only with management approval. Priority is clearing of existing roads and second priority, when all other methods are exhausted, is construction of new control lines.

### Allowable Uses

The public land will be managed under the principles of multiple use and sustained yield as required by the *Federal Land Policy and Management Act*. Any valid uses, occupancy, and development of the public land, will be considered unless the action is not in conformance with the plan. Authorization will be subject to applicable environmental review procedures. Authorized use includes, but is not limited to, those requiring rights-of-way, leases, and licenses. In some areas, however, environmental values, special designations, hazards, or

manageability considerations may require limitations on the type or intensity of use, or both. Those limitations are identified in the plan's land use allocations and management goals for specific areas of the public land and will be included as stipulations and special conditions in leases, licenses, and permits.

### Detailed Management Plans

This Resource Management Plan provides general guidance for the resource area. More detailed management plans will be prepared to deal with areas where a greater level of detail is required. These are called activity plans. Activity plans will direct specific management practices, improvements, allocations, and other information for a particular site or area. Where two or more activities have needs in the same general area, a single consolidated activity plan may be prepared. Coordination, consultation, and public involvement are integral parts in the formulation of activity plans. Activity plans will be in conformance with land use allocations, resource objectives, and management actions set forward in the Resource Management Plan.

### Economic and Social Considerations

The BLM will ensure that management action will:

- 1) provide for the efficient use of resources given funding constraints or other resource limiting factors;
- 2) provide a stable resource base for the local and regional economies to the maximum extent possible; and,
- 3) consider and maintain the traditional social and economic values of the local area and region if in conformance with federal law and regulation.

The BLM will use standard methods to calculate cost efficiency and cost effectiveness including benefit/cost analysis. BLM will consider the dependency of local public land users on the public land for their standard of living.

### Environmental Reviews

The environmental review process specified in the *National Environmental Policy Act* and supplemented

## Policy Guidance Common to All Alternatives

by BLM policy, regulation, and handbook guidance, will be conducted on all projects before approval. This site-specific analysis will allow some projects to be constructed under provisions of the categorical exclusion review process and others to be considered under environmental assessment, administrative determinations, and Environmental Impact Statements.

## Plan Maintenance

Resource management plans and supporting components shall be maintained as necessary to reflect minor changes in data. Such maintenance is limited to further refining or documenting a previously approved decision incorporated into the plan. Maintenance shall not result in the expansion of the scope of resource uses or restrictions, or in a change of the terms, conditions, and actions of the approved plan. Maintenance is not considered a plan amendment and does not require formal public involvement and interagency coordination, or the preparation of an environmental assessment or environmental impact statement.

## Plan Monitoring

The implementation of the plan will be monitored during the life of the plan to ensure that management actions are meeting their intended purposes.

Management actions will be compared with the plan goals to ensure conformance with the intent of the plan. Formal plan evaluations will take place at intervals not to exceed five years. These evaluations will assess the progress of plan implementation and determine:

1. If management actions are resulting in satisfactory progress toward achieving goals;
2. If actions are consistent with current policy;
3. If original assumptions were correctly applied and impacts correctly predicted;
4. If mitigation measures are satisfactory;

5. If it is still consistent with the plans and policies of state and local government, other federal agencies, and Indian tribes;
6. If new data are available that would require alteration of the plan.

As part of the plan evaluation, the government entities mentioned above will be requested to review the plan and advise the District Manager of its continued consistency with their officially approved resource related plans, programs, and policies. Advisory groups will also be consulted during the evaluation in order to secure their input.

Upon completion of a periodic evaluation the District Manager will determine what changes, if any, are necessary to ensure that the management actions of the plan are consistent with its goals.

## Plan Amendments

A resource management plan may be changed through amendment. An amendment may be prompted by monitoring and evaluation findings, new data, new or revised policy, or a change in circumstances. An amendment may also be prompted by a proposed action that may result in a change in the scope of resource uses or a change in the terms, conditions and actions of the approved plan. Amendments shall be made through an environmental assessment or impact statement, public involvement, interagency coordination and consistency determination, and any other data or analysis that may be appropriate. Always, the effect of the amendment on the plan shall be evaluated.

## Plan Implementation

Within six months after the Record of Decision approving the proposed plan, a Resource Objectives Monitoring Plan will be prepared by the Bennett Hills Area Manager in accordance with Idaho supplemental manual guidance (Idaho BLM Manual Supplement 1734). Minimum monitoring standards have been adopted by the State of Idaho, Bureau of Land Management (see *Minimum Monitoring Standards for BLM-Administered Rangelands in Idaho*). Ongoing

studies, if not already in compliance with the minimum standards, will be brought into compliance with the minimum standards within five years after the Record of Decision adopting the proposed plan. New studies will be consistent with the minimum standard recommendations. More intensive or specialized studies may be utilized if a management need exists.

## Continuing Management

Many resource uses and management actions shown under Alternative A in Table 2.3 would continue under all four alternatives and, therefore, should be considered as part of each alternative. The resource allocations and management practices that are currently in effect in the planning area, and would continue under all four alternatives, are termed "valid existing management." They meet BLM policy and directives, they have already been analyzed in previous environmental documents, and they would not change despite which alternative is chosen. Management actions that continue are identified in Table 2.3 by the statement "Same as Alternative A," which appears under Alternatives B, C and D. That shorthand system of presenting continuing management avoids writing out the statement four times and allows the reader easy comparison of similarities.

Each continuing management action has been restated from a previous land use plan to conform to the format used in this plan. However, restatement of the management action has not changed the content, scope, or intent of that action from the wording in the original plan.

## Desired Future Vegetation Condition Common to Alternatives B, C and D

A primary concern of the BLM is the management of the vegetation resources. The quantity and quality of the vegetation have a strong influence on resource uses. This includes, but is not limited to, watershed functions, wildlife habitat, livestock forage and many

recreation uses. The mix and yield of resource uses depends on the capability of the vegetation to support that mix and yield over the long-term. An achievable vegetation community which best supports the multiple uses of public land in the planning area, and for which we are managing, is called our "Desired Future Vegetation Condition."

The desired future vegetation condition represents a broad vegetation composition goal within one of the 12 "Vegetation Management Zones" shown on Map 2.1. Thus, there is not one desired future vegetation condition; there are 11 desired future vegetation conditions within the 12 zones. One zone, Zone 11, is characterized by lava flows, rock outcrop, and rock rubbleland and is generally unproductive for vegetation. The desired future vegetation condition for that zone is simply the adapted vegetation able to grow among the rocks. For the other 11 zones the desired future vegetation condition depends on several factors. First, the particular "Ecological Site(s)" which make up the zone; second, the condition of the existing vegetation; and third, the primary resource uses, or mix of resource uses, the vegetation is intended to support.

Attaining the desired future vegetation condition in any of the Vegetation Management Zones, is dependent upon all the actions in this plan. Those actions represent the method(s) for reaching the broad vegetation goal(s). The desired future vegetation condition does not represent a separate action apart from the whole. Maintaining or improving the desired ecological status is the goal. Reaching the potential natural vegetation community is generally not the resource-area-wide goal, but that vegetation condition may be the goal on special management areas including Areas of Critical Environmental Concern. The general goal is to manage for the vegetation communities that best provide for all the resource uses identified in this plan, or as mandated by law.

The term "Ecological Site" was used above in describing the factors on which the desired future vegetation condition depends. An Ecological Site is an area that may vary in size from a few acres to thousands of acres, which have the potential to grow

## Desired Future Vegetation Condition Common to B, C, and D

a predictable mix and quantity of vegetation. Ecological Sites depend on the soil and the effective moisture at that location. The soil characteristics, such as depth, stoniness, impermeable layers, and many other factors, determine what plants can grow and what the productivity of the plants will be. The effective moisture is also critical in determining the kind and amount of plants found on a site. Effective moisture is not always the same as the amount of rain and snow received. For example, precipitation, mostly as snow, which collects and remains longer on north and east facing slopes might help support a completely different plant community than precipitation that falls on south and west facing slopes. Plants more tolerant of drought are normally found on the latter slopes while plants requiring more moisture are found on the former slopes.

Ecological Sites make up the basic building blocks of the desired future vegetation condition concept. Under contract, the Soil Conservation Service has, over a period of years, mapped all the soils on public, state, and private land within the Bennett Hills Resource Management Planning area. Each soil series found outside intensive agricultural blocks has been correlated to an Ecological Site. Each soil mapping unit is made up of one or more soil series correlated to Ecological Sites on a percentage basis so that all the soils in the mapping unit add to 100 percent. To order a vast array of over 330 soil mapping units, containing 40 different Ecological Sites in varying proportions, into a dozen broad management zones was an essential task. The step-by-step method used is found in the Management Situation Analysis on file in the Shoshone District Office.

Each Ecological Site is named in a certain way, assigned a unique number, and described in detail in an Ecological Site Description produced by the Soil Conservation Service. That agency, responsible for the National Cooperative Soil Survey, is also charged with developing and maintaining Ecological Site Descriptions. Copies of each Ecological Site Description used to establish the 12 Vegetation Management Zones, and the desired future vegetation condition for each zone found in this Resource

Management Plan, is on file in the Shoshone District Office.

The Vegetation Management Zones described in Table 2.1, and shown on Map 2.1, represent the productive capability for vegetation within the planning area. All 40 Ecological Sites are contained within the 12 zones. Ecological Sites grouped together have similar growth capabilities. For example, nearly all of the dozen Ecological Sites which make up Vegetation Management Zone 1 have Wyoming big sagebrush as the dominant overstory shrub. Zone 2, on the other hand, is made up of five Ecological Sites that have Basin big sagebrush as the dominant overstory shrub. The ecological sites combined to make up a Zone are identified in Appendix F. These zones are the same as described in Chapter 3.

The vegetation goals shown in Table 2.2 were established by an interdisciplinary team that considered resource use needs and the capability of the soil to produce and sustain the desired future vegetation condition. Composition of the desired future vegetation condition was developed through careful consideration of ecological site capabilities, vegetation inventories, published research, and district experience. By establishing broad vegetation goals for plant community composition and structure, the need to identify resource use goals, except as indicators of success or failure in meeting the vegetation goals, is reduced. If the broad vegetation goals are met by our daily management actions, the mix and yield of resource uses dependent upon the vegetation would also be met.

The values used to describe the plant groupings (i.e., grass, forb, shrub) in Table 2.2 are shown in percent by weight of annual production. The percent by weight figures for each desired future vegetation condition goal are based on normal seasonal precipitation patterns throughout the growing year. Abnormal amounts or seasonal distribution of precipitation would result in skewed vegetation production values for the major plant groupings.

The desired future vegetation condition would comprise a mosaic of plant communities of differing

vegetation composition and structure that collectively contain the plant composition as described. In the long-term, the plant composition across larger portions of the vegetation zone would more closely resemble the desired future vegetation condition composition.

The vegetation composition described in the desired future vegetation condition would be met with a combination of native and introduced species. Preference will be given to native plant species over introduced plant species in meeting desired future vegetation condition goals. Introduced plant species or improved native cultivars would be considered where research or district vegetation rehabilitation experience has shown that the use of native plant species would not result in successful plant establishment. All seeded species will be considered for satisfying the multiple resource goals of soil protection, livestock and wildlife forage, aesthetic values, wildlife thermal, escape and nesting cover, and ecological diversity and stability for that vegetation zone.

The individual species composition for the annual and perennial grasses and forbs and perennial shrubs are not shown in Table 2.2. The exact species composition is dependent on the natural seed source availabilities at the site, availabilities of commercial seed, and other costs for rehabilitation or improvement projects. This does not imply that desired future vegetation condition goals may be met by establishment of any species of grasses, forbs, or shrubs that happen to be present at a site or are quickly and cheaply available from a commercial seed outlet. It is the BLM's intent to populate each zone with native vegetation community if possible. Appendix F shows specific species of grasses, forbs, and shrubs for each Vegetation Management Zone considered as necessary to achieve the desired future vegetation condition. Appendix F is a guideline for management of a zone. Based on cost, site conditions, seed sources and availability, and other factors, the guidelines may sometimes need to be modified. Deviations from the desired species list in Appendix F must be documented by the responsible officer as part of the *National Environmental Policy Act* compliance conducted on all BLM activities.

## Dealing With The Issues and Management Concerns

The public scoping process identified four issues for resolution in this Resource Management plan. Chapter 1 explains those issues in detail. Table 2.3 lists the management actions proposed under the four alternatives developed. The management actions are grouped by issue so the reader may see how each alternative resolves the issue.

The number in brackets [ ] following each action is a tracking mechanism used to coordinate actions.

Many actions support a general parent action or resource condition objective. For example, actions relating to mineral withdrawal and surface occupancy for leasable minerals are made to support the establishment of an Area of Critical Environmental Concern. Actions on vehicle use are made to support the designation and management of a Special Recreation Management Area. These "parent" actions are identified in the table in two ways: first, the parent action will always end in "00" for the tracking number and supporting actions will have the same prefix as the parent. Second, the parent action is in italics print while the supporting actions follow immediately in normal print.

Management concerns focus on use conflicts, law or policy, or resource conditions that have not been identified during the scoping process as issues. Nevertheless, these concerns require management attention to anticipate future needs and avoid developing into issues in future years. Frequently, these topics are neither highly controversial (based on public scoping) nor different between alternatives, but need to be fully considered in the planning process. Table 2.3 lists these actions under the heading of Management Concerns.

**TABLE 2.1**  
 Vegetation Management Zones Found in  
 the Bennett Hills Resource Management Planning area  
 Bureau of Land Management  
 Shoshone District, Idaho

Zone Number	General Description of the Vegetation Management Zone
Zone 1	<p>A zone characterized by generally loamy soils, having 8-12" of precipitation, with potential to grow Wyoming big sagebrush over a mixed understory of grasses and forbs. This is the zone with the greatest total number of ecological sites included. However, nine of the 12 ecological sites occur only sparingly or comprise only a few tens or hundreds of acres. There are three principal ecological sites important for vegetation management:</p> <ul style="list-style-type: none"> <li>● Loamy, 10-12" precipitation, Wyoming big sagebrush over Bluebunch wheatgrass</li> <li>● Loamy, 8-12" precipitation, Wyoming big sagebrush over Thurber's needlegrass</li> <li>● Sandy loam, 8-12" precipitation, Wyoming big sagebrush over Indian ricegrass</li> </ul>
Zone 2	<p>A zone characterized by generally loamy soils, having 8-12" of precipitation, with potential to grow Basin big sagebrush over a mixed understory of grasses and forbs, the most important being Bluebunch wheatgrass. Of the five ecological sites which comprise this zone, one is by far the most important for general management. The principal ecological site is:</p> <ul style="list-style-type: none"> <li>● Loamy, 8-12" precipitation, Basin big sagebrush over Bluebunch wheatgrass</li> </ul>
Zone 3	<p>A zone with soils composed primarily of sand, having 8-12" of precipitation, with potential to grow Basin big sagebrush over a mixed understory of grasses and forbs, the most important being Indian ricegrass. Of the two ecological sites comprising this zone, the following site was selected as representative for vegetation management:</p> <ul style="list-style-type: none"> <li>● Sand, 8-12" precipitation, Basin big sagebrush over Indian ricegrass</li> </ul>
Zone 4	<p>A zone characterized by generally heavy loam soils, having 11-13" of precipitation, with potential to grow three-tip sagebrush over a mixed understory of grasses and forbs, of which Bluebunch wheatgrass would be the most dominant. Only one ecological site makes up this zone:</p> <ul style="list-style-type: none"> <li>● Claypan, 11-13" precipitation, three-tip sagebrush over Bluebunch wheatgrass</li> </ul>
Zone 5	<p>A zone characterized by loam, gravelly loam, or stony loam soils, having 12-16" of precipitation with potential to grow Mountain big sagebrush over a mixed understory of grasses and forbs. Because this zone represents the drier end of the Mountain big sagebrush community, Bluebunch wheatgrass would be the primary understory indicator species. See also Zone 7 for the moist end of the Mountain big sagebrush community. Of the five ecological sites comprising Zone 5, the most representative for vegetation management is:</p> <ul style="list-style-type: none"> <li>● Loamy, 12-16" precipitation, Mountain big sagebrush over Bluebunch wheatgrass</li> </ul>

Zone Number	General Description of the Vegetation Management Zone
Zone 6	<p>A zone characterized by loamy soils, having 12-16" of precipitation, with potential to grow Basin big sagebrush over a mixed understory of grasses and forbs, the most important being Bluebunch wheatgrass. Only one ecological site is found in this zone:</p> <ul style="list-style-type: none"> <li>● Loamy, 12-16" precipitation, Basin big sagebrush over Bluebunch wheatgrass</li> </ul>
Zone 7	<p>A zone characterized by loamy soils, having 12-16" of precipitation, with potential to grow Mountain big sagebrush over a mixed understory of grasses and forbs. Because this zone represents the moist end of the Mountain big sagebrush community, Idaho fescue would be the primary understory indicator species. See also Zone 5 for the dry end of the Mountain big sagebrush community. Only one ecological site is found in this zone:</p> <ul style="list-style-type: none"> <li>● Loamy, 12-16" precipitation, Mountain big sagebrush over Idaho fescue</li> </ul>
Zone 8	<p>A zone characterized by stony clayey, clay pan, or shallow stony soils that are typically saturated with water during spring snowmelt, having 8-12" of precipitation, with potential to grow Low sagebrush with mixed grasses and forbs, the principal grass being Bluebunch wheatgrass. Four ecological sites make up this zone, but one site is most representative:</p> <ul style="list-style-type: none"> <li>● Shallow stony, 8-12" precipitation, Low sagebrush associated with Bluebunch wheatgrass</li> </ul>
	<p>This zone has a very limited potential for change through vegetation management. The zone is important because it produces spring forbs useful for wildlife and domestic sheep.</p>
Zone 9	<p>A zone characterized by clayey or stony clay soils which are typically saturated with water during spring snowmelt, having 11-16" of precipitation, with potential to grow Alkali sagebrush with mixed grasses and forbs, the principal grass being Idaho fescue. Three ecological sites make up this zone, but one site is most representative:</p> <ul style="list-style-type: none"> <li>● Stony clay, 12-16" precipitation, Alkali sagebrush associated with Idaho fescue</li> </ul>
	<p>Like Zone 8, this zone has a very limited potential for change through vegetation management. The zone is important because it produces spring forbs useful for wildlife and domestic sheep.</p>
Zone 10	<p>A zone of churning clay soils, having 8-12" of precipitation, with potential to grow Wyoming big sagebrush and a few grasses and forbs; the principal pre-disturbance grass was Bluebunch wheatgrass. The zone is limited in extent and is made up of only one ecological site:</p> <ul style="list-style-type: none"> <li>● Churning clay, 8-12" precipitation, Wyoming big sagebrush over Bluebunch wheatgrass</li> </ul>
	<p>This zone is mostly occupied by introduced annual grasses and forbs which can establish and grow in extremely harsh environments. The high shrink-swell characteristic of the heavy clay soils makes seeding very marginal. Generally this zone should be avoided when considering mechanical vegetation treatments.</p>

Zone Number	General Description of the Vegetation Management Zone
Zone 11	<p>A zone of generally unproductive lava flow, rock outcrop, and rock rubbleland. This zone is under-represented on Map 2.1 because most of the zone occurs as inclusions within other zones. The desired future vegetation condition simply consists of those adapted plants able to grow in the rock fissures, cracks, or islands of wind deposited soil within the surrounding rock. No vegetation management is envisioned for this zone because most plant communities are protected by their location.</p>
Zone 12	<p>A zone characterized by soils saturated with water at least part of the year, normally receiving more than 12" of precipitation, except where larger streams traverse the 7-12" precipitation zone, with potential to grow many kinds of plant communities differing markedly from the upland vegetation. Semi-wet meadows are characterized by low growing shrub and/or grass/sedge/rush forb plant communities. Wet meadows are characterized by willow/grass/sedge/rush forb plant communities. Riparian areas, the green zone next to standing or running water, like springs, seeps, and both small and large perennial streams are capable of supporting many plant communities, most of which are not yet fully described nor documented by researchers and agency personnel. Riparian areas are characterized by combinations of trees, willows or other shrubs like dogwood and alder, grasses, sedges, rushes and forbs. The mix of species the site is capable of producing varies with soil depth and texture, beaver activity, past disturbance, and many other factors. Four described wet meadow and semi-wet meadow ecological sites and many riparian ecological sites make up this zone. This is the important zone for species diversity, both plant and animal, though the number of acres in the zone is only about 1 percent of the total public land acres.</p>

TABLE 2.2  
 Desired future vegetation condition Composition  
 Goals for the Vegetation Management Zones  
 Bureau of Land Management  
 Shoshone District, Idaho

Zone Number	Percent Yearly Growth Production by Weight			Composition Goals for Selected Vegetation Species	Comments and Percent	Percent Shrub Canopy Cover	Shrub Height (Inches)				
	Perennial Plants										
	Grasses	Forts	Shrubs								
Zone 1	≥ 35	8-12	28-32	≤ 25	<5% tall green rabbitbrush or dwarf green rabbitbrush	22%	21				
Zone 2	≥ 40	8-12	23-27	≤ 25	<5% tall gray rabbitbrush or dwarf gray rabbitbrush	10	43				
Zone 3	≥ 45	8-12	23-27	≤ 20	<5% tall green rabbitbrush or tall gray rabbitbrush	10	43				
Zone 4	48-52	13-17	23-27	8-12	<5% tall green rabbitbrush or dwarf green rabbitbrush	17	14				
Zone 5	48-52	18-22	23-27	3-7	<5% tall green rabbitbrush, >6% antelope bitterbrush	20	33				
Zone 6	48-52	13-17	28-32	3-7	>10% antelope bitterbrush	20	30				
Zone 7	48-52	23-27	18-22	3-7	<5% tall green rabbitbrush or tall gray rabbitbrush	32	24				
Zone 8	43-47	18-22	28-32	3-7	<5% tall green rabbitbrush or dwarf green rabbitbrush	19	9				
Zone 9	43-47	23-27	23-27	3-7	<5% antelope bitterbrush	19	12				
Zone 10	≥ 25	8-12	23-27	≤ 40	<5% tall gray rabbitbrush, >5% antelope bitterbrush	25	21				
Zone 11	—	—	—	—	LAVA	—	—				
Zone 12	48-52	08-12	28-32	08-12	<10% Kentucky Bluegrass or redtop bentgrass	—	—				

**TABLE 2.3**  
**Detailed Alternative Descriptions**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

ALTERNATIVE A (Map 2.2) (Existing Management)	ALTERNATIVE B (Map 2.3)	ALTERNATIVE C (Map 2.4)	ALTERNATIVE D (Map 2.5) (Preferred Alternative)
<b><u>Issue 1 - How will the BLM continue to focus management attention on riparian resources and related uplands?</u></b>			
No existing decision.	Achieve a desired future vegetation condition (Table 2.2) across the planning area by the end of the 20-year planning horizon, by a combination of livestock and fire management, and vegetation manipulation. Specific vegetation stands may vary from the desired future vegetation condition. Some stands may have more shrubs than desired while other stands on the same ecological site may have less shrubs than desired. However, as a whole, on a given ecological site within a given area, the average of all vegetation stands should equal the desired future vegetation condition at the end of the planning horizon [1.00].	Same as Alternative B.	Same as Alternative B.
Maximum allowable utilization by livestock in any pasture of an allotment will be determined in the Allotment Management Plan. The degree of utilization in any pasture will not exceed the identified wildlife needs for food and cover, and watershed protection [1.01].	Develop the structural vegetation diversity of herbaceous and woody species to improve snow entrapment for replenishment of soil moisture and to meet the needs of wildlife for food and cover (see Table 2.2) [1.01].	Same as Alternative B.	Same as Alternative B.
No existing decision.	Develop a vegetation management plan for the Snake River Plain, North Camas and Upper and Lower Bennett Hills Geographic Reference Areas detailing the actions to be taken to achieve the desired future vegetation condition [1.02].	Same as Alternative B.	Same as Alternative B.

Coordinate any brush removal project located on deer winter range with the wildlife program to ensure adequate winter forage and cover are maintained [1.03].

Coordinate any brush removal project located on deer winter range with the wildlife program to ensure adequate winter forage and cover are maintained [1.03].	Assess all proposed vegetation manipulation (including permanent changes in live-stock use or class) for the cumulative impact on the overall desired future vegetation condition (see Table 2.2). Assure the proposal is consistent with the stated goals in the vegetation management plan. Small restoration projects on mechanically disturbed land of up to 40 acres and small developed recreation sites, are specifically excluded from this requirement to allow timely revegetation of disturbed areas to avoid weed infestation and provide protection against soil erosion [1.03].	Same as Alternative B.
No existing decision.	Revise existing activity plans to reflect vegetation goals [1.04].	Same as Alternative B.
No existing decision.	Establish studies to guide management actions for special status plant and animal species found within the planning area. Manage special status species to maintain viable populations [1.05].	Same as Alternative B.
Selectively control heavy stands of brush which are competing with, or have replaced, herbaceous vegetation desirable for watershed protection [1.06].	The concept of the existing action is incorporated in the desired future vegetation condition & goals of action [1.00].	Same as Alternative B.
Allow no brush control activities on crucial deer winter range [1.07].	The concept of the existing action is incorporated in the desired future vegetation condition goals of action [1.00].	Same as Alternative B.
Selective brush control may occur within a two-mile radius of sage grouse strutting grounds on identified sage grouse wintering areas [1.08].	Selective brush control may occur within a two-mile radius of sage grouse strutting grounds on identified sage grouse wintering areas to achieve desired future vegetation condition goals described in action 1.00 and in conformance with the vegetation management plan required in action 1.02 [1.08].	Same as Alternative B.
Seed areas, with an insufficient residual stand of herbaceous vegetation, to adequately support sage grouse [1.09].	Seed areas that have an insufficient residual stand of herbaceous vegetation to adequately support sage grouse [1.09].	Same as Alternative B.

**TABLE 2.3**  
**Detailed Alternative Descriptions**

**Issue 1: Riparian Resources and Related Uplands**

<b>ALTERNATIVE A (Map 2.2) (Existing Management)</b>	<b>ALTERNATIVE B (Map 2.3) (Preferred Management)</b>	<b>ALTERNATIVE C (Map 2.4) (Preferred Alternative)</b>	<b>ALTERNATIVE D (Map 2.5) (Preferred Alternative)</b>
quately protect the basic soils resource [1.09].	achieve desired future vegetation condition goals described in Action 1.00 and in conformance with the vegetation management plan required in action 1.02 [1.09].	Same as Alternative B.	Same as Alternative B.
Reduce off-site flood and sediment damage by reducing the rate of erosion and improving herbaceous vegetation in the upper watershed [1.10].	Reduce off-site flood and sediment damage by reducing the rate of erosion by managing for the desired future vegetation condition described in action 1.00 [1.10].	Same as Alternative B.	Same as Alternative B.
Reduce the sagebrush canopy by 40 to 60 percent in mule deer and elk summer ranges where the present canopy cover exceeds 25 percent [1.11].	Concept incorporated in the desired future vegetation condition goal.	Same as Alternative B.	Same as Alternative B.
Include a variety of both forbs and grasses in all revegetation projects located in deer summer areas [1.12].	Include a variety of both forbs and grasses as described in the desired future vegetation condition goals in action 1.00, in all revegetation projects located in deer yearlong areas [1.12].	Same as Alternative B.	Same as Alternative B.
Manage deer winter range to provide adequate food and cover for 3500 animals as determined in the Bennett Hills Management Framework Plan, 1979 [1.13].	Manage deer winter range to achieve the desired future vegetation condition described in action 1.00 [1.13].	Same as Alternative B.	Same as Alternative B.
Propose no land treatment project, reducing the existing shrub density, on critical deer winter range [1.14].	Concept incorporated in the desired future vegetation condition goal.	Same as Alternative B.	Same as Alternative B.

Establish and maintain vegetative composition of succulent forbs between 15 and 20 percent on antelope ranges [1.15].

Same as Alternative B.

Same as Alternative B.

Manage to establish and maintain vegetation composition of succulent forbs in accordance with desired future vegetation condition goals described in action 1.00 [1.15].

Maintain randomly distributed sagebrush patches, 2–4 acres in size, with canopy cover >20% and brush height >40 cm, throughout identified antelope habitat [1.16].

Concept incorporated in the desired future vegetation condition goal.

Same as Alternative B.

Selectively reduce sagebrush throughout the sage grouse brood rearing habitat, to improve the vegetative forb composition [1.17].

Selectively reduce sagebrush throughout the sage grouse brood rearing habitat to improve the vegetative forb composition in accordance with desired future vegetation condition goals described in action 1.00 [1.17].

Same as Alternative B.

Establish a diverse vegetative composition (15–20% shrubs, 20–25% forbs, 50–65% grasses) on upland bird habitat [1.18].

Same as Alternative B.

Same as Alternative B.

Establish a diverse vegetation composition as described in the desired future vegetation condition objective in action 1.00 [1.18].

Manage the vegetation cover, within a two-mile radius of known eagle series, to maintain or enhance bird of prey species [1.19].

Same as Alternative A.

Same as Alternative A.

Same as Alternative A.

Control big sagebrush with chemicals or fire in the Magic Reservoir area, only after a determination such control will not impair nesting success of sage grouse. Avoid steep south facing slopes having shallow soil. Orient treatment in strips or elongate patches with the long axis running generally north/south [1.20].

Action not carried forward.

Action not carried forward.

Control big sagebrush using only chemicals or fire in the Magic Reservoir area. Strive for a 50 percent reduction in the amount of big sagebrush. Orient treatment in strips or elongated patches with the long axis running generally north/south [1.21].

Action not carried forward.

Action not carried forward.

**TABLE 2.3**  
**Detailed Alternative Descriptions**

Issue 1: Riparian Resources and Related Uplands	ALTERNATIVE A (Map 2.2) (Existing Management)	ALTERNATIVE B (Map 2.3)	ALTERNATIVE C (Map 2.4)	ALTERNATIVE D (Map 2.5) (Preferred Alternative)
Permit no brush control measures in low sagebrush types in the Magic Reservoir area [1.22].	Action not carried forward.	Action not carried forward.	Action not carried forward.	Action not carried forward.
Establish and maintain a vegetative composition of summer succulent forbs between 10 to 15 percent in the Magic Reservoir area [1.23].	Establish and maintain a vegetative composition of summer succulent forbs in accordance with desired future vegetation condition goals established in action 1.00 [1.23].	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.
Investigate the opportunities to increase the density of alfalfa to 20-25 percent of the vegetation composition on 1460 acres in the Magic Reservoir area [1.24].	Action not carried forward.	Action not carried forward.	Action not carried forward.	Action not carried forward.
Implement rest-rotation grazing systems in the Magic Reservoir area to establish a diverse vegetative composition of 15-20 percent shrubs, 20-25 percent forbs, and 55-65 percent grasses [1.25].	Implement grazing systems to achieve the desired future vegetation condition goals described in action 1.00. The proposed permitted active grazing use in Table A-1 shows the anticipated changes needed to achieve plant community goals. Actual changes will occur only after the development of vegetative management plans from action [1.02], and after consultation, coordination and cooperation with affected permittees and other affected interests. Actual change may be different than shown in Table A-1 [1.25].	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.
Maintain sagebrush patches randomly throughout the Magic Reservoir area in sufficient quantity to afford adequate antelope fawning and fawn cover [1.26].	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.

No existing decision.	Rest vegetation treatment areas from livestock grazing for a minimum of two years following treatment or wild fire. Limit livestock grazing use of desirable herbaceous species to less than 40 percent of the current year's growth during years three through five following treatment or wild fire. Livestock grazing may be permitted only once during the third through fifth year following treatment or wild fire, in areas seeded or planted with desirable shrubs or in wild fire areas containing significant remnant desirable shrubs. In areas seeded or planted with desirable shrubs or in wild fire areas containing significant remnant desirable shrubs, livestock use may occur only during the early growing season, before the "boot stage" of desirable perennial grass species [1.27].	Same as Alternative B.
No existing decision.	<i>Manage wetlands and riparian areas to improve or maintain water quality (see actions 1.00 - 1.04) [2.00].</i>	Same as Alternative B.
Maintain the quantity and improve the quality of water available for power boating, sail boating and swimming [2.01].	Action not carried forward.	Action not carried forward.
Support minimum stream flows and minimum pools in reservoirs for recreational purposes [2.02].	Action not carried forward.	Action not carried forward.
Increase emphasis on watershed protection by improving overall range condition [2.03].	Increase emphasis on watershed and riparian protection by managing to achieve the desired future vegetation condition [2.03].	Same as Alternative B.
Establish 16 water quality monitoring stations at identified locations [2.04].	Establish water quality monitoring sites on designated stream segments of concern on which the BLM has lead responsibility. The Idaho Division of Environmental Quality will approve monitoring protocols [2.04].	Same as Alternative B.

**TABLE 2.3**  
**Detailed Alternative Descriptions**

**Issue 1: Riparian Resources and Related Uplands**

<b>ALTERNATIVE A (Map 2.2) (Existing Management)</b>	<b>ALTERNATIVE B (Map 2.3)</b>	<b>ALTERNATIVE C (Map 2.4)</b>	<b>ALTERNATIVE D (Map 2.5) (Preferred Alternative)</b>
Improve water quality in identified stream reaches by selective channel fencing to exclude domestic livestock only after failure of the allotment management plan to improve conditions [2.05].	Revise or prepare activity plans to address restoration of water quality as a priority through the application of best management practices and feedback process on streams where one or more approved beneficial water uses are not being supported [2.05].	Same as Alternative B.	Same as Alternative B.
No existing decision.	Re-evaluate the existing road system to identify roads and trails where damage is occurring or may occur to riparian, wetlands and stream condition. Such roads will be rerouted, modified or closed to minimize damage to riparian zones, wetlands and stream crossings [2.06].	Same as Alternative B.	Same as Alternative B.
	See action 1.00	Same as Alternative B.	Same as Alternative B.
	Reverse the present trend in erosion condition on Macon Flat, and attempt to reduce erosion from a moderate to slight class by implementing grazing management systems which meet the physiological needs of herbaceous species [2.07].	Same as Alternative B.	Same as Alternative B.
	No existing decision.	Introduce beaver into areas that have appropriate water, food sources, and material for dam and lodge construction [2.08].	Placement of structures in stream channels to improve water quality by reducing sediment load may occur only after considering the introduction of
	No existing decision.	Same as Alternative B.	Same as Alternative B.

beaver or if no beaver are available for introduction [2.09].

No existing decision.

**Manage the Snake River Rim Geographic Reference Area primarily for recreational values, while maintaining or improving riparian, wetland, and stream habitats for wildlife, and maintaining or improving water quality in concert with the *Federal Clean Water Act* and the State of Idaho Governor's Antidegradation Agreement [2.10].**

Same as Alternative B.

Same as Alternative B.

No existing decision.

Same as Alternative B.

The design and operation of biological water filtering systems and water impoundments would be in concert with, and complementary to, the goals and goals of actions 2.00-2-10, 3.00-3.04, 4.00-4.09, 5.00-5.10, and 6.00-6.08. Filtering systems on public land would be designed to create stable, relatively undisturbed wetlands, riparian zones, and stream habitats. Public land will not be available for the sole site solution of water quality problems occurring upstream on private land unless the public land is the only solution feasible from an engineering standpoint [2.11].

Same as Alternative B.

Same as Alternative B.

No existing decision.

Same as Alternative B.

Any applicant of biological water filtering systems and water impoundments would be responsible for all background analysis to determine if accumulation of substances in biological water filtering systems on public land would lead to the creation of hazardous waste. A complete chemical analysis of the water to determine the type and concentration of both organic and inorganic constituents would be a precursor to preliminary site design. The background analysis would incorporate an assessment of the probable concentration and bio-accumulation of the compounds found in the water samples. Water sampling would be timed to detect

Same as Alternative B.

Same as Alternative B.

**TABLE 2.3**  
**Detailed Alternative Descriptions**

**Issue 1: Riparian Resources and Related Uplands**

<b>ALTERNATIVE A (Map 2.2) (Existing Management)</b>	<b>ALTERNATIVE B (Map 2.3) (Existing Management)</b>	<b>ALTERNATIVE C (Map 2.4) (Preferred Alternative)</b>	<b>ALTERNATIVE D (Map 2.5) (Preferred Alternative)</b>
No existing decision.	Approve applications for biological water filtering systems and water impoundments if they meet the following criteria: The filtering system chosen is not likely to generate hazardous waste or any system generating hazardous waste must be justified on a case-by-case basis. Applicant agrees to indemnify the U.S. against all liability, and agrees to post a bond sufficient to clean up any hazardous materials incident. The applicant is responsible for all costs of site assessment, design, construction, operation, maintenance, and monitoring of biological water filtering systems [2.13].	Same as Alternative B.	Same as Alternative B.
No existing decision.	Evaluate and, where feasible, modify existing spring developments to enhance or re-establish their riparian condition [2.14].	Same as Alternative B.	Same as Alternative B.
No existing decision.	Establish a moratorium on new spring developments within a Geographic Reference Area until action [2.14] has been implemented within that reference area [2.15].	Same as Alternative B.	Same as Alternative B.
No existing decision.	Manage riparian areas to ensure at least six (6) inches average stubble height (Clary, 1989; Winward, 1993) of desirable native riparian grasses and	Same as Alternative B.	Same as Alternative B.

sedges or, if riparian grasses are not present, herbaceous vegetation remain at the end of the growing season (November 1) [2.16].

**Issue 2 - What land will be acquired into, or made available for disposal from, federal ownership?**

<p><i>Make available for disposal from public ownership 6,672 acres by exchange only (map symbol B), 14,700 acres by sale or exchange (map symbol C) [3.01].</i></p>	<p><i>Make available for disposal from public ownership 3,015 acres by exchange only (map symbol B), 3,052 acres by sale or exchange (map symbol C), and 324 acres as State of Idaho In Lieu selection (map symbol I) [3.00].</i></p>	<p><i>Make available for disposal from public ownership 36,044 acres by exchange only (map symbol B), 632 acres by sale or exchange (map symbol C), 324 acres as State of Idaho In Lieu selection (map symbol I). Priority for exchange will be given to state exchanges as identified in the Conceptual Exchange Plan Agreement between the Shoshone District BLM and the State of Idaho [3.00].</i></p>
<p><i>Propose no land disposal actions for areas identified as deer winter range [3.01].</i></p>	<p><i>Retain in public ownership native shrub communities in the Lower Bennett Hills Geographic Reference Area, and manage to maintain biological diversity by preserving shrub communities (see actions 1.00 - 1.04), [3.01].</i></p>	<p><i>Same as Alternative B.</i></p>
<p><i>Make state exchange the priority disposal method to block up public land, except for the Lime Creek area. Dispose of Lime Creek area by exchange in the following priority: (1) USFS, (2) State of Idaho to acquire state land in Deer Creek [3.02].</i></p>	<p><i>Priority for land exchange is to the State of Idaho. However, the BLM reserves the right to exchange land with any qualifying entity [3.02].</i></p>	<p><i>Same as Alternative B.</i></p>
<p><i>Conduct an active exchange program to acquire state land surrounded by public land [3.03].</i></p>	<p><i>Action not carried forward.</i></p>	<p><i>Action not carried forward.</i></p>
<p><i>No existing decision.</i></p>	<p><i>The 640 acres (map symbol B) of public land lying east of State Highway 93 and north of the Perrine Bridge (T9S,R17E sec. 23 W1/2, Sec. 26 W1/2) are only available for exchange with the State of Idaho [3.04].</i></p>	<p><i>Same as Alternative B.</i></p>

**TABLE 2.3**  
**Detailed Alternative Descriptions**

**Issue 2: Land Acquisition and Disposal**

<b>ALTERNATIVE A (Map 2.2) (Existing Management)</b>	<b>ALTERNATIVE B (Map 2.3)</b>	<b>ALTERNATIVE C (Map 2.4)</b>	<b>ALTERNATIVE D (Map 2.5) (Preferred Alternative)</b>
No existing decision.	Reserve legal access as appropriate on all land disposal actions [3.05].	Same as Alternative B.	Same as Alternative B.
No existing decision.	Dispose of land currently under a Recreation & Public Purposes lease to the Jerome County Commissioners or their designate (Lease number I-26377 for the Jerome County Agricultural Museum in a portion of Section 14 in T. 9 S., R.17 E.), only to the Commissioners or their designate as long as the lease is in effect. Should the Commissioners withdraw or default on the lease, the land will be available for disposal by sale or exchange [3.06].	Same as Alternative B.	Same as Alternative B.
No existing decision.	Make available for disposal 153 acres of public land in the city of West Magic (map symbol C) subject to existing rights-of-Way and reserving public access to the existing public launching facilities (ramps and docks) [3.07].	Same as Alternative B.	Same as Alternative B.
No existing decision.	Plan amendments to dispose of public land to specifically accommodate individual agricultural trespass will not be considered [3.08].	Same as Alternative B.	Same as Alternative B.
No existing decision.	Retain in public ownership land in agricultural trespass lying adjacent to live streams [3.09].	Same as Alternative A.	Same as Alternative A.
No existing decision.	Seek to acquire 267 acres of private land (T. 3 S., R. 15 E.) on the south boundary of the Little City of Rocks (map symbol J) for inclusion in the	Same as Alternative B.	Same as Alternative B.

**Special Recreation Management Area [17.06].**

No existing decision.	<i>Seek to acquire 2,749 acres of private land (map symbol I) and associated water and mineral rights having potentially high riparian and wildlife values, and manage for those values [4.00].</i>	Same as Alternative B.
No existing decision.	All land identified for acquisition will be pursued only when a willing seller is involved [4.01].	Same as Alternative B.
No existing decision.	All acquired land may be authorized for livestock grazing only on a temporary non-renewable basis if the livestock grazing would be compatible with wildlife and riparian goals [4.02].	Same as Alternative B.
No existing decision.	Close all land acquired for riparian, wildlife and water quality values to material sales and free use permits, and stipulate no surface occupancy for leaseable mineral (oil and gas) exploration and development [4.03].	Same as Alternative B.
No existing decision.	<i>Seek to acquire private land in Sections 19 &amp; 20 T. 3 S., R. 13 E., (map symbol J) for riparian and wildlife values, and to protect the stream segment of concern [4.04].</i>	Same as Alternative B.
No existing decision.	Withdraw all land acquired for riparian, wildlife and water quality values from mineral entry under the 1872 mining law [4.05].	Same as Alternative B.
No existing decision.	<i>Seek to acquire state land along streams in the Camas Geographic Reference Area [4.06].</i>	Same as Alternative B.
No existing decision.	Prepare management plans for, or incorporate into existing plans, all land (including Chicken Spring) acquired for	Same as Alternative B.

**TABLE 2.3**  
**Detailed Alternative Descriptions**

**Issue 2: Land Acquisition and Disposal**

<b>ALTERNATIVE A (Map 2.2) (Existing Management)</b>	<b>ALTERNATIVE B (Map 2.3)</b>	<b>ALTERNATIVE C (Map 2.4)</b>	<b>ALTERNATIVE D (Map 2.5) (Preferred Alternative)</b>
Permit no livestock grazing or trailing for two growing seasons (from date of acquisition) on the Chicken Spring acquisition [4.08].	No appropriate because this date has passed [4.07].	No appropriate because this date has passed.	Not appropriate because this date has passed.
Authorize livestock grazing on the Chicken Spring and Spring Creek acquisitions only on a temporary non-renewable basis and only if livestock grazing would be compatible with the riparian goals. The acquired land at Chicken Spring will not be permanently adjudicated or allotted for livestock grazing [4.09].	Same as Alternative A.	Same as Alternative A.	Not appropriate because this date has passed.
<b>Designate 5,668 acres as the Snake River Rim Special Recreation Management Area (map symbol R) [5.00].</b>	Establish 5,236 acres as the Snake River Rim Special Recreation Management Area (map symbol R) to be managed with emphasis on developed recreational opportunities [5.00].	Establish 5,236 acres as the Snake River Rim Special Recreation Management Area (map symbol R) to be managed with an emphasis on dispersed and open space recreational opportunities [5.00].	Establish 5,236 acres as the Snake River Rim Special Recreation Management Area (map symbol R) to be managed with an emphasis on dispersed and open space recreational opportunities [5.00].
Prepare a cultural resource management plan for the Devils Corral area [5.01].	Prepare an interdisciplinary activity plan for the Snake River Rim Special Recreation Management Area, which integrates the cultural resources of Cauldron Linn and Devils Corral, as well as Vineyard Lake Area of Critical Environmental Concern, the desired future vegetation condition, and the wildlife isolated tracts within the	Same as Alternative B.	Action not carried forward.

**Issue 3 - How will public resources along the north rim of the Snake River Canyon be managed and for what uses?**

*Exchange land, formerly included in the Snake River Rim Special Recreation Management Area, with the State of Idaho as per action 3.00 of this alternative [5.00].*

*Establish 5,236 acres as the Snake River Rim Special Recreation Management Area (map symbol R) to be managed with an emphasis on dispersed and open space recreational opportunities [5.00].*

*Establish 5,236 acres as the Snake River Rim Special Recreation Management Area (map symbol R) to be managed with an emphasis on developed recreational opportunities [5.00].*

management area. This plan may include additional off-highway vehicle closures or limitations and an intensive interpretive signing program [5.01].

- |   |   |   |
|---|---|---|
| No existing decision.   | Withdraw Vineyard Lake and Creek, Devils Corral, Dry Cataracts and Cauldron Linn (map symbol S) from locatable mineral exploration and entry [5.02].  | Same as Alternative B.  |
| Close Dry Cataracts and Devils Corral (map symbol E) to material sales and free use permits [5.03]. | Close Dry Cataracts, Cauldron Linn and Devils Corral (map symbol E) to material sales and free use permits [5.03].  | Same as Alternative B.  |
| No existing decision.   | Stipulate no surface occupancy for leasable mineral (oil and gas) exploration and development in the Devils Corral and Cauldron Linn areas (map symbol K) [5.04].   | Same as Alternative B.  |
| No existing decision.   | Seek to acquire 204 acres (T9S, R18E) known as the Erkins property (map symbol J) for inclusion in the Devils Corral cultural area to protect cultural features [5.05].   | Seek to acquire 204 acres (T9S, R18E) known as the Erkins property (map symbol J) for inclusion in the Devils Corral cultural area to protect cultural features, and the Idaho Power land east of the Bliss tract (T6S, R13E) for inclusion in the Snake River Rim Special Recreation Management Area [5.05]. |
| No existing decision.   | Coordinate any actions undertaken by the BLM in the county preservation zones along the Snake River Rim [5.06].   | Same as Alternative B.  |
| No existing decision.   | Preserve the existing archeological values in the portion of Cauldron Linn below the canyon rim by prohibiting any surface disturbing activities, except for approved research, and opposing any development of the area that would directly or indirectly alter or visually impact the cultural or historic values [5.07]. | Same as Alternative B.  |
| No existing decision.   | Close 345 acres in the Devils Corral (map symbol F) to vehicle use. Close 117 acres below the Snake River Canyon  | Same as Alternative B.  |
| No existing decision.   | Limit vehicle use on 108 acres in Cauldron Linn (map symbol L) to signed roads and trails [5.08].   | Same as Alternative B.  |

**TABLE 2.3**  
**Detailed Alternative Descriptions**

**Issue 3: Management of Resources on the North Snake River Rim**

<b>ALTERNATIVE A (Map 2.2) (Existing Management)</b>	<b>ALTERNATIVE B (Map 2.3) (Preferred Alternative)</b>	<b>ALTERNATIVE C (Map 2.4) (Preferred Alternative)</b>	<b>ALTERNATIVE D (Map 2.5) (Preferred Alternative)</b>
No existing decision.	Identify 5,215 acres (map symbol P) as an avoidance area to new rights-of-way. Existing right-of-way holders may upgrade their facilities within their current authorized right-of-way [5.09].	Same as Alternative B.	Not applicable to this alternative.
No existing decision.	Develop an interpretive center for the Oregon trail in the Snake River Rim Special Recreation Management Area and staff with a full time interpretive specialist/ranger [5.10].	Not applicable to this alternative.	Not applicable to this alternative.
No existing decision.	Seek a cooperative agreement with the State of Idaho for the management of state land within the Special Recreation Management Area [5.11].	Seek to acquire state sections 35 & 36 T9S, R17E for inclusion in the Snake River Rim Special Recreation Management Area [5.11].	Not applicable to this alternative.
No existing decision.	Conduct a mining claim validity determination on all claims in the Snake River Rim Special Recreation Management Area [5.12].	Close the main portion of the Snake River Rim Special Recreation Management Area to visitor use between	Not applicable to this alternative.
No existing decision.			Same as Alternative B.

sunset and sunrise. Close the Bliss Tract/Hagerman Take-out to overnight camping and campfires [5.13].

No existing decision.

Close the Snake River Rim Special Recreation Management Area to firearm use except in designated and posted shooting areas [5.14].

Same as Alternative B.

Issue 4 - Is there a need for protecting the Resource Area's critical resource values through special management designation?

No existing decision.

The Big Wood, Dry Creek and King Hill river segments are determined to be not suitable for consideration by Congress for inclusion in the Wild & Scenic Rivers system. Initiate the Wild & Scenic River study process within two years of the Record of Decision on eligible segments of the Snake River. The study will be conducted in accordance with the Memorandum of Understanding with the State of Idaho [6.00].

The Big Wood, Dry Creek and King Hill river segments are determined suitable for consideration by Congress for inclusion in the Wild & Scenic Rivers system. Initiate the Wild & Scenic River study process within one year of the Record of Decision on eligible segments of the Snake River. Study will be conducted in accordance with the Memorandum of Understanding with the State of Idaho [6.00].

No existing decision.

Approve no new power site withdrawals or developments that would jeopardize wild & scenic river eligibility of the Snake River in accordance with management guidance provided in BLM Manual 8351 on Wild & Scenic Rivers [6.01].

Same as Alternative B.

No existing decision.

Withdraw the segment of the Big Wood River designated as eligible for Wild & Scenic River consideration from mineral entry (map symbol S). Temporarily withdraw 2,202 acres (map symbol T), eligible for Wild & Scenic River designation on the Hagerman, King Hill, Milner, and Muriough segments of the Snake River and on Box Canyon Creek, and

Same as Alternative B.

**TABLE 2.3**  
**Detailed Alternative Descriptions**

**Issue 4: Special Management Designations**

<b>ALTERNATIVE A (Map 2.2) (Existing Management)</b>	<b>ALTERNATIVE B (Map 2.3) (Proposed Management)</b>	<b>ALTERNATIVE C (Map 2.4) (Preferred Alternative)</b>	<b>ALTERNATIVE D (Map 2.5) (Preferred Alternative)</b>
Vineyard Lake and Creek, from mineral entry until suitability study determines the segment(s) are unsuitable, or Congress releases the segment(s) from further consideration. Withdrawal will be made permanent if Congress includes the segment(s) in the Wild & Scenic River System or the State of Idaho legislates protection for the segment(s) [6.02].	Designate the Hagerman, King Hill, Miner, and Murtaugh segments of the Snake River (map symbol P) under consideration for Wild & Scenic River designation, as avoidance areas to new rights-of-way [6.03].	Same as Alternative B.	Same as Alternative B.
No existing decision.	Not applicable to this alternative.	Complete mining claim validity determinations on all river segments suitable for Wild & Scenic River designation [6.04].	Same as Alternative C.
No existing decision.	Not applicable to this alternative.	In the event the suitability study for the eligible Snake River, Vineyard Lake and Box Canyon Creek does not find the segments as suitable for Wild & Scenic River designation, or Congress releases the segments from further consideration, the management of these segments will be available to all aspects of public land law except as modified by other actions described in this plan [6.05].	Same as Alternative B.

No existing decision.	Same as Alternative B.
Close the segment of the Big Wood River designated as eligible for Wild & Scenic River (map symbol E) consideration to material sales and free use permits [6.06].	Same as Alternative B.
No existing decision.	Same as Alternative B.
Stipulate no surface occupancy for leasable mineral (oil & gas) exploration and development on 2,202 acres, eligible for Wild & Scenic River designation, on the Hagerman, King Hill, Milner, and Murtaugh segments of the Snake River and on Box Canyon Creek and Vineyard Lake (map symbol K) until suitability study determines the segment(s) are unsuitable or Congress releases the segment(s) from further consideration. The stipulation will be made permanent if Congress includes the segment(s) in the Wild & Scenic River System or the State of Idaho legislates protection for the segment(s). Stipulate no surface occupancy for leasable mineral (oil and gas) exploration and development on the Big Wood River segment eligible for Wild & Scenic River designation [6.07].	Same as Alternative B.
No existing decision.	Not applicable to this alternative.
No existing decision.	Not applicable to this alternative.
Designate 142 acres in Box Canyon as an Area of Critical Environmental Concern (map symbol A) for the purpose of preservation and research of threatened and endangered animal species.	Continue to manage 142 acres in Box Canyon as an Area of Critical Environmental Concern (map symbol A) for the purpose of preservation and research of threatened and endangered animal species.
No existing decision.	Same as Alternative B.
Identify the segment of the Big Wood River suitable for Wild & Scenic River designation (map symbol F), to motorized vehicle use [6.08].	Identify the segment of the Big Wood River suitable for Wild & Scenic River designation (map symbol F), to motorized vehicle use [6.08].
No existing decision.	Same as Alternative C.
Designate 142 acres in Box Canyon as an Area of Critical Environmental Concern (map symbol O) as an exclusion area for land use authorizations [6.09].	Same as Alternative C.
No existing decision.	Same as Alternative B.

**TABLE 2.3**  
Detailed Alternative Descriptions

Issue 4: Special Management Designations

ALTERNATIVE A (Map 2.2) (Existing Management)	ALTERNATIVE B (Map 2.3)	ALTERNATIVE C (Map 2.4)	ALTERNATIVE D (Map 2.5) (Preferred Alternative)
<i>Designate 110 acres in the Vineyard Lake area as an Area of Critical Environmental Concern (map symbol A) to preserve spawning habitat for hybrid trout.</i>	<i>Continue to manage 110 acres and an additional 68 acres in the Vineyard Lake area as an Area of Critical Environmental Concern (map symbol A) to preserve spawning habitat for hybrid trout.</i>		
	<i>Designate 10,043 acres as the T-Maze Cave Research Natural Area/Area of Critical Environmental Concern (map symbol A) to protect the unique subsurface resources.</i>	<i>Same as Alternative B.</i>	
		<i>Designate 12 acres of Kings Crown as a Research Natural Area/Area of Critical Environmental Concern (map symbol A) for the purpose of obtaining potential natural vegetation as a reference area.</i>	
			<i>Designate 1,399 acres in Dry Creek as a Research Natural Area/Area of Critical Environmental Concern (map symbol A) for the primary purpose of establishing a reference area to study riparian and upland vegetation communities under controlled livestock use.</i>
			<i>Designate 101 acres around Fir Grove as a Research Natural Area/Area of Critical Environmental Concern (map symbol A) for research purposes.</i>
			<i>Designate 361 acres of Camas Creek as an Research Natural Area/Area of Critical Environmental Concern (map symbol A)</i>

A) as a research area for riparian vegetation.

Designate 2,642 acres as the King Hill Creek Research Natural Area/Area of Critical Environmental Concern (map symbol A), in the Bennett Hills and Bruneau Resource Areas (amends the Jarbidge RMP), for the primary purpose to protect a genetically pure strain of redband trout which inhabits the middle and upper reaches of the creek by maintaining or improving instream habitat quality and upland watershed condition.

*It is anticipated that additional nominations for Areas of Critical Environmental Concern will be received. As nominations are received, and as data becomes available, those areas will be evaluated to determine if they meet BLM criteria for special designation. Suitability of those areas will be considered through the BLM's planning process [7.00].*

Prepare an activity plan for the Vineyard Lake Area of Critical Environmental Concern [7.01].

Same as Alternative B.

Revise the activity plan for the Box Canyon Area of Critical Environmental Concern. Revise the Black Canyon allotment management plan to incorporate the Dry Creek Area of Critical Environmental Concern objectives including live-stock trailing and closure, and vegetation monitoring. Prepare an activity plan for the Vineyard Lake, Fir Grove, King Hill Creek (amends the Jarbidge RMP) and T-Maze Areas of Critical Environmental Concern. The T-Maze plan will incorporate Limits of Acceptable Change concepts to protect cave resource values. The plan will also address measures to protect bats during critical hibernation periods [7.01].

Same as Alternative B.

**TABLE 2.3**  
Detailed Alternative Descriptions

Issue 4: Special Management Designations

ALTERNATIVE A (Map 2.2) (Existing Management)	ALTERNATIVE B (Map 2.3) (Existing Management)	ALTERNATIVE C (Map 2.4) (Preferred Alternative)	ALTERNATIVE D (Map 2.5) (Preferred Alternative)
Stipulate no surface occupancy for leasable mineral (oil and gas) exploration and development in the Box Canyon and Vineyard Lake Areas of Critical Environmental Concern (map symbol K) [7.02].	Stipulate no surface occupancy for leasable mineral (oil and gas) exploration and development in the Box Canyon, Vineyard Lake, Dry Creek, Fir Grove, Camas Creek, King Hill Creek (amends the Jarbidge RMP) and Kings Crown Areas of Critical Environmental Concern.	Same as Alternative B.	Same as Alternative B.
Open to vehicle use the Box Canyon Area of Critical Environmental Concern. Close to vehicle use the Vineyard Lake Area of Critical Environmental Concern (map symbol F) [7.03].	Stipulate no surface occupancy for leasable mineral (oil and gas) exploration and development including seismic exploration on 1,314 acres of the T-Maze Area of Critical Environmental Concern (map symbol K) [7.02].	Limit vehicle use to designated and signed roads and trails identified in the Box Canyon, Vineyard Lake, and Dry Creek Areas of Critical Environmental Concern activity plans, and on 1,314 acres in the T-Maze Area of Critical Environmental Concern. Close the Kings Crown, Camas Creek, King Hill Creek (amends Jarbidge RMP) and Fir Grove Areas of Critical Environmental Concern (map symbol F) to vehicle use [7.03].	Limit vehicle use to designated and signed roads and trails identified in the Box Canyon Area of Critical Environmental Concern will be made only after completion of the court-ordered Environmental Impact Statement (Morgan vs Hardie et. al.), completion of the suitability study for wild and scenic river consideration, and all stipula-
No existing decision.			Same as Alternative B.

tions of the right-of-way grant have been met [7.04].

No existing decision.

Same as Alternative B.

Seek to acquire for inclusion in the Box Canyon Area of Critical Environmental Concern (T8S., R14E), the upper portion of Box Canyon (subject to existing easements) plus 250 ft. back from the canyon rim (map symbol J) and all water rights except for the Clear Springs' Trout Hatchery rights. Seek to acquire 160 acres (T9S., R18E) known as the Ehlers property (map symbol J) for inclusion in the Vineyard Lake Area of Critical Environmental Concern to protect the outstanding ecological, scenic, and recreational values [7.05].

Close the Vineyard Lake Area of Critical Environmental Concern (map symbol E) to material sales and free use permits [7.06]

Same as Alternative B.

Same as Alternative B.

Close the Box Canyon, Vineyard Lake, Dry Creek, Fir Grove, Camas Creek, King Hill Creek (amends the Jarbridge RMP) and Kings Crown Areas of Critical Environmental Concern to material sales and free use permits (map symbol E). Authorize no material sales or free use permits inside the cave(s) in the T-Maze Area of Critical Environmental Concern [7.06].

No existing decision.

Same as Alternative B.

Allow no sampling or collecting of plants or animals in the Box Canyon and Vineyard Lake Areas of Critical Environmental Concern, and no subsurface collecting or sampling in the T-Maze Area of Critical Environmental Concern, unless approved by the authorized officer [7.07].

No existing decision.

Same as Alternative B.

Motorized water craft must have their motors shut off and outboard motors removed from the water within the Box Canyon and Vineyard Lake Areas of Critical Environmental Concern [7.08].

No existing decision.

Same as Alternative B.

Withdraw (map symbol S) the Box Canyon, Vineyard Lake, Kings Crown, Kings Crown, and Box Canyon areas [7.09].

Same as Alternative B.

**TABLE 2.3**  
**Detailed Alternative Descriptions**

**Issue 4: Special Management Designations**

<b>ALTERNATIVE A (Map 2.2) (Existing Management)</b>	<b>ALTERNATIVE B (Map 2.3) (Proposed Management)</b>	<b>ALTERNATIVE C (Map 2.4) (Preferred Alternative)</b>	<b>ALTERNATIVE D (Map 2.5) (Preferred Alternative)</b>
No existing decision.	Permit no new authorizations which may adversely impact the identified resource values in the Box Canyon or Vineyard Lake Areas of Critical Environmental Concern or eligibility of Box Canyon Creek or Vineyard Lake and Creek for inclusion in the Wild & Scenic River system [7.10].	Same as Alternative B.	Same as Alternative B.
No existing decision.	Monitor all off-site disturbances impacting the values of the Box Canyon, Vineyard Lake, T-Maze, Dry Creek, Fir Grove, Camas Creek, King Hill Creek (amends the Jarbridge RMP) and Kings Crown Areas of Critical Environmental Concern. Mitigate all disturbances from public land and work with private land owners to mitigate disturbances from private land affecting the values of the Area of Critical Environmental Concern [7.11].	Same as Alternative B.	Same as Alternative B.
No existing decision.	Restrict access to the cave(s) containing bats in the T-Maze Area of Critical Environmental Concern during winter hibernation periods (November through April) except for approved research or BLM management actions [7.12].	Same as Alternative B.	Same as Alternative B.

On the remaining 8,717 acres of the T-Maze Area of Critical Environmental Concern, all permitted activities including leasable mineral exploration and development, may occur as long as the activity does not jeopardize the physical and biological values of the known cave(s) or habitat for cave wildlife [7.13].

No existing decision.

Same as Alternative B.

Identify the Kings Crown, Dry Creek, Fir Grove, Camas Creek, King Hill Creek (amends the Jarbidge RMP) and 1,314 acres of the T-Maze Area of Critical Environmental Concern as an exclusion area (map symbol O) for land use authorizations; and 8,717 acres of the T-Maze Area of Critical Environmental Concern as an avoidance area for land use authorizations [7.14].

No existing decision.

Same as Alternative B.

Close the Kings Crown Area of Critical Environmental Concern to livestock grazing. Close the Dry Creek Research Natural Area/Area of Critical Environmental Concern to livestock grazing below the canyon rim except for designated spring trailing use with no overnight stays. Close the Camas Creek Area of Critical Environmental Concern to livestock grazing except for sheep trailing within the wing fences at Macon Sheep Bridge with no overnight stays (see actions 1.00 - 1.04) [7.15].

No existing decision.

Same as Alternative B.

Permit no vegetation manipulation or surface disturbing activities in the Kings Crown, Fir Grove and Dry Creek Areas of Critical Environmental Concern except for research or government administrative needs and in conformance with other designations such as wilderness status. Restrict vegetation manipulation activities in the King Hill Creek Area of Critical Environmental Concern (amends the Jarbidge RMP) to only those actions which would improve the habitat

Same as Alternative B.

Same as Alternative B.

Close the Kings Crown Area of Critical Environmental Concern to livestock grazing. Close the Dry Creek Research Natural Area/Area of Critical Environmental Concern to livestock grazing and trailing below the canyon rim. Close the Camas Creek Area of Critical Environmental Concern to livestock grazing except for sheep trailing within the wing fences at Macon Sheep Bridge with no overnight stays (see actions 1.00 - 1.04) [7.15].

Same as Alternative B.

Same as Alternative B.

Permit no vegetation manipulation or surface disturbing activities in the Kings Crown, Fir Grove and Dry Creek Areas of Critical Environmental Concern except for research or government administrative needs and in conformance with other designations such as wilderness status. Restrict vegetation manipulation activities in the King Hill Creek Area of Critical Environmental Concern (amends the Jarbidge RMP) to only those actions which would improve the habitat

**TABLE 2.3**  
**Detailed Alternative Descriptions**

**Issue 4: Special Management Designations**

<b>ALTERNATIVE A (Map 2.2) (Existing Management)</b>	<b>ALTERNATIVE B (Map 2.3)</b>	<b>ALTERNATIVE C (Map 2.4)</b>	<b>ALTERNATIVE D (Map 2.5) (Preferred Alternative)</b>
No existing decision.	conditions for redband trout, mountain quail and Columbian sharp-tailed grouse, and in compliance with wilderness status [7.16].	Same as Alternative B.	Same as Alternative B.
Fence Fir Grove to prevent livestock and other unauthorized uses from occurring [7.18].	Close the Fir Grove Area of Critical Environmental Concern to wood products harvesting or collecting [7.17].	Same as Alternative B.	Same as Alternative B.
Inform local schools of the availability of Fir Grove as an education area [7.20].	Fence Fir Grove and Camas Creek Areas of Critical Environmental Concern. Wing fences will be constructed at the Macon Sheep Bridge to allow sheep trailing through the Camas Creek area [7.18].	Same as Alternative A.	Seek to acquire 150 acres (T1S,R16E) of private land separating the Camas Area of Critical Environmental Concern tracts for inclusion in the Area of Critical Environmental Concern [7.21].
No existing decision.	Complete a vegetation inventory in the Fir Grove Area of Critical Environmental Concern (see actions 1.00 - 1.04) [7.19].	Same as Alternative B.	Same as Alternative C.
No existing decision.	Enter into cooperative agreements with private land owners to manage the land between the Camas Area of Critical Environmental Concern tracts consistent with Area of Critical Environmental Concern management [7.21].	Same as Alternative A.	Same as Alternative C.
No existing decision.	Close all aquatic habitat in the King Hill Creek Area of Critical Environmental Concern (amends the Jarbridge RMP) to introduction of genetic strains of trout which are not native to the King Hill	Same as Alternative B.	Same as Alternative B.

Creek watershed. Petition the Idaho Department of Fish and Game to prohibit the introduction of genetic strains of trout into King Hill Creek which are not native to the King Hill Creek watershed [7.22].

No existing decision.	<p>Designate the following as significant caves: <i>Jawdropper, Hole to Hell, Pot O' Gold, Giant Arch, Johnson I, Shoshone Pit I, Bear Print South, Rush, Tea Kettle, Diamond, Cai Skull, Gypsum, The One That Goes, The One Dave Missed, Pigeon Hole, Bai, Carter, Crystal Caverns, and B Cave</i> [8.00].</p>	Same as Alternative B.
No existing decision.	<p>Prepare a cave management plan for designated significant caves outside the T-Maze Area of Critical Environmental Concern, to include Limits of Acceptable Change [8.01].</p>	Same as Alternative B.
No existing decision.	<p>Permit no material sales (map symbol E) or free use permits inside caves designated as significant [8.02].</p>	Same as Alternative B.
No existing decision.	<p>Permit no subsurface collecting or sampling in caves designated as significant unless approved by the authorized officer [8.03].</p>	Same as Alternative B.
No existing decision.	<p>Stipulate no surface occupancy or seismic exploration (map symbol K) for leaseable minerals (oil and gas) on 1,913 acres over caves designated as significant [8.04].</p>	Same as Alternative B.
No existing decision.	<p>Withdraw (map symbol S) 1,913 acres from mineral entry to protect the resource values of designated significant caves [8.05].</p>	Same as Alternative B.
No existing decision.	<p>Take any management actions necessary to protect resource values of designated significant caves, including gating of caves and the institution of permitted visitor systems [8.06].</p>	Same as Alternative B.

TABLE 2.3  
Detailed Alternative Descriptions

Issue 4: Special Management Designations

TABLE 2.3

ALTERNATIVE A (Map 2.2) (Existing Management)	ALTERNATIVE B (Map 2.3)	ALTERNATIVE C (Map 2.4) (Preferred Alternative)	ALTERNATIVE D (Map 2.5) (Preferred Alternative)
<b><u>Management Concerns</u></b>			
<i>Include 6,349 acres in the Wildlife Isolated Tracts Program (map symbol D) to maintain or improve the quality and integrity of wildlife habitat. The primary objective is to maintain or improve the integrity of existing winter, escape and nesting cover for upland game birds [9.00].</i>	<i>Include 6,765 acres in the Wildlife Isolated Tracts Program (map symbol D) to maintain or improve the quality and integrity of wildlife habitat. The primary objective is to maintain or improve the integrity of existing winter, escape and nesting cover for upland game birds [9.00].</i>	<i>Include 6,896 acres in the Wildlife Isolated Tracts Program (map symbol D) to maintain or improve the quality and integrity of wildlife habitat. The primary objective is to maintain or improve the integrity of existing winter, escape and nesting cover for upland game birds [9.00].</i>	<i>Include 5,802 acres in the Wildlife Isolated Tracts Program (map symbol D) to maintain or improve the quality and integrity of wildlife habitat. The primary objective is to maintain or improve the integrity of existing winter, escape and nesting cover for upland game birds [9.00].</i>
Revise the Wildlife Isolated Tracts Habitat Management Plan [9.01].	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
No existing decision.	Identify all wildlife isolated tracts as avoidance areas (map symbol P) for new surface disturbing activities (including rights-of-way, surface occupancy for leasable minerals, material sales and free use) that are not consistent with management objectives of the Isolated Tracts Habitat Management Plan [9.02].	Identify all wildlife isolated tracts as avoidance areas (map symbol P) for new surface disturbing activities (including rights-of-way, surface occupancy for leasable minerals, material sales and free use) that are not consistent with management objectives of the Isolated Tracts Habitat Management Plan [9.02].	Identify all wildlife isolated tracts as avoidance areas (map symbol P) for new surface disturbing activities (including rights-of-way, surface occupancy for leasable minerals, material sales and free use) that are not consistent with management objectives of the Isolated Tracts Habitat Management Plan [9.02].
No existing decision.	Examine existing authorizations in wildlife isolated tracts, as they come up for renewal, for consistency with objectives of the Wildlife Isolated Tracts Habitat Management Plan and renew, modify or cancel as appropriate [9.03].	Examine existing authorizations in wildlife isolated tracts, as they come up for renewal, for consistency with objectives of the Wildlife Isolated Tracts Habitat Management Plan and renew, modify or cancel as appropriate [9.03].	Examine existing authorizations in wildlife isolated tracts, as they come up for renewal, for consistency with objectives of the Wildlife Isolated Tracts Habitat Management Plan and renew, modify or cancel as appropriate [9.03].
No existing decision.	Limit vehicle use (map symbol L) within Prohibit vehicle use within wildlife	Prohibit vehicle use within wildlife	Prohibit vehicle use within wildlife

wildlife isolated tracts to designated roads and trails [9.04].	isolated tracts except for approved existing uses [9.04].	
No existing decision.	Same as Alternative B.	Same as Alternative B.
Fence all wildlife isolated tracts as necessary to assure maintenance or improvement of wildlife habitat values [9.05].		Same as Alternative B.
Pursue legal public access to wildlife isolated tracts on a priority basis as identified by the Habitat Management Plan [9.06].	Same as Alternative B.	Same as Alternative B.
No existing decision.	Same as Alternative B.	Same as Alternative B.
All Sikes Act cooperative farm agreements on wildlife isolated tracts must be consistent with the objectives of the Habitat Management Plan and limited to a five year period. Change of ownership or control of land included under Sikes Act or Cooperative Farm Agreements in wildlife isolated tracts will automatically terminate the existing agreement at the end of the current crop year. All such agreements will be recorded at the appropriate county courthouse [9.07].		Same as Alternative B.
No existing decision.	Retain all wildlife isolated tracts in public ownership [9.08].	Same as Alternative B.
No existing decision.	Close all wildlife isolated tracts to livestock grazing, unless authorized under a cooperative agreement compatible with the management objectives for the tracts [9.09].	Same as Alternative B.
<i>Seek to acquire easements for public access on the portions of roads crossing private or state land [10.00].</i>	<i>Acquire legal public access to public land on 68 miles of road as identified on Map 3.13 [10.00].</i>	Same as Alternative B.
Obtain legal and physical access to Deer Creek from the south [10.01].	Not applicable to this alternative.	Not applicable to this alternative.
Relocate the Chicken Spring to Spring Creek road (BLM roads 2409 and 1306)	Not applicable to this alternative.	Not applicable to this alternative.

**TABLE 2.3**  
**Detailed Alternative Descriptions**

Management Concerns	ALTERNATIVE A (Map 2.2) (Existing Management)	ALTERNATIVE B (Map 2.3)	ALTERNATIVE C (Map 2.4)	ALTERNATIVE D (Map 2.5) (Preferred Alternative)
so they will lie entirely on public land [10.02].	Upgrade the road leading to the City of Rocks [10.03].	Not applicable to this alternative.	Not applicable to this alternative.	Not applicable to this alternative.
	<i>Review Bureau of Reclamation withdrawals and revoke those that no longer serve the intent or are not necessary [11.00].</i>	<i>Review all Bureau of Reclamation administered withdrawn land within the next 10 years for revocation or continuance. Give strong consideration to other actions such as rights-of-way, agreements, and 43 CFR Part 3809 regulations to protect the Bureau of Reclamation developments. On all revoked or relinquished withdrawals, structures originally authorized under the withdrawal may be authorized under the right-of-way or other appropriate authorization [11.00].</i>	<i>Review all Bureau of Reclamation administered withdrawn land within the next 10 years for revocation or continuance. Give strong consideration to other actions such as rights-of-way, agreements, and 43 CFR Part 3809 regulations to protect the Bureau of Reclamation developments. On all revoked or relinquished withdrawals, structures originally authorized under the withdrawal may be authorized under the right-of-way or other appropriate authorization [11.00].</i>	<i>Include in the wildlife isolated tracts program all Bureau of Reclamation withdrawn land returned with agricultural leases. Land will be managed in accordance with all wildlife isolated tracts decisions (see action 9.00). Any withdrawn land returned with agricultural leases will be honored until the term expires [11.01].</i>
	No existing decision.			
				<i>Upon revocation or relinquishment action, Bureau of Reclamation withdrawn land shall be subject to the existing decisions for adjacent BLM administrated</i>

land or in accordance with the wildlife isolated tracts program [11.02].

Review Bureau of Reclamation withdrawn land every ten years to determine if the original withdrawal is still serving the original intent [11.03].

No existing decision.

Same as Alternative B.

Provide 82,301 Animal Unit Months of active grazing preference (see Table A-1 in Appendix A for allotment specific detail). This number is based on the current authorized preference [12.00].

Provide 79,777 Animal Unit Months of active grazing preference (see Table A-1 in Appendix A for allotment-specific detail). This level of use is based on the proposed grazing levels from the Monument Resource Management Plan, the Sun Valley Grazing Environmental Impact Statement and the Shoshone Grazing Environmental Impact Statement, as modified by management agreements with livestock operators.

Provide 54,751 Animal Unit Months of active grazing preference (see Table A-1 in Appendix A for allotment-specific detail). This level of use is based on the 1984-1992 nine-year average actual grazing use (see Table A-4 in Appendix A).

Preference may be adjusted by the BLM authorized officer based on analysis, interpretation and evaluation of available data. Adjustments may either be made by a management agreement between BLM and the livestock permittee(s) or by a formal decision issued by the authorized officer. In either case, the agreement or decision will include, but will not be limited to, management practices for water quality improvement or maintenance as applicable, specific grazing prescriptions to achieve desired future vegetation conditions described in action [1.00], and provisions for modifying future management if land use plan goals are not being reached. As vegetation management plans prescribed in action [1.02] are completed, livestock management agreements will be modified to bring them into conformance with the vegetation management plans. All new management agreements, or modifications to existing agreements, will be provided to the Shoshone District Multiple Use Advisory Council or a similar multiple use advisory group for review and

Initially provide 54,751 Animal Unit Months of active grazing preference (see Table A-1 in Appendix A for allotment-specific detail). This level of use is based on the 1984-1992 nine-year average actual grazing use (see Table A-4 in Appendix A).

Preference may be adjusted between the nine-year average actual use level of 55,058 Animal Unit Months and 79,777 Animal Unit Months provided for in Alternative B for specific allotments by the BLM authorized officer based on analysis, interpretation and evaluation of available monitoring data. Adjustments may either be made by a management agreement between BLM and the livestock permittee(s) or by a formal decision issued by the authorized officer. In either case, the agreement or decision will include, but will not be limited to, management practices for water quality improvement or maintenance as applicable, specific grazing prescriptions to achieve desired future vegetation conditions described in action [1.00], and provisions for modifying future management if land use plan goals are not being reached. As vegetation management plans prescribed in action [1.02] are completed, livestock management agreements will be modified to bring them into conformance with the vegetation management plans. All new management agreements, or modifications to existing agreements, will be provided to the Shoshone District Multiple Use Advisory Council or a similar multiple use advisory group for review and

**TABLE 2.3**  
Detailed Alternative Descriptions

Management Concerns

ALTERNATIVE A (Map 2.2) (Existing Management)	ALTERNATIVE B (Map 2.3)	ALTERNATIVE C (Map 2.4)	ALTERNATIVE D (Map 2.5) (Preferred Alternative)
No existing decision.	<i>use advisory group for review and recommendation. The District Manager shall make the final decision after appropriate consultation with affected parties. [12.00].</i>	<i>recommendation. The District Manager shall make the final decision after appropriate consultation with affected parties [12.00].</i>	<i>Advisory Council or a similar multiple use advisory group for review and recommendation. The District Manager shall make the final decision after appropriate consultation with affected parties [12.00].</i>
Temporary non-renewable grazing use may be authorized for up to 10 percent and 14 days above active preference provided land use plan goals are being met, as documented by monitoring studies. Any levels requested above this shall require additional environmental assessment in compliance with the <i>National Environmental Policy Act</i> and shall be in strict conformance with all requirements of action 12.00 [12.01].	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.
Any livestock preference voluntarily relinquished or canceled by decision for conservation and protection of the public land shall be held by the authorized officer for protection and conservation of the resource and permanently retired from use [12.02].	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.
Establish opening dates for livestock grazing compatible with identified wildlife needs [12.03].	Livestock grazing authorization to enter and use the public land shall be based on range readiness. Range readiness occurs when the majority of indicator forage grass species are at no less than the four leaf growth stage. Other environmental and physical factors that will be considered in determining range readiness		

include soil moisture, temperature, precipitation and plant vigor. Indicator forage grass species are Thurber's needlegrass, western needlegrass and bluebunch, crested or intermediate wheatgrass, and any other key species identified in site-specific management plans or the Resource Objectives and Monitoring Plan [12.03].

Selectively exclude livestock from identified reservoirs, streams, and canal reaches and from King Hill, Dry and Clover Creeks to improve riparian habitat [12.04].

Establish livestock grazing systems to enhance the reproduction and forage availability of forbs and shrubs [12.05].

Intensively manage livestock grazing to ensure no more than 40 percent of the current annual growth on important shrubs (bitterbrush, chokecherry, service berry and sagebrush) is utilized by livestock on critical deer winter range [12.06].

Implement grazing systems to assure no more than 1/3 of the critical deer winter range is grazed after August 11 [12.07].

Exclude livestock from areas identified as pheasant escape and winter habitat, except when grazing is shown to be beneficial to wildlife [12.08].

No existing decision.

Redefine allotments along the Snake River to exclude livestock grazing below the rim. Allotments affected and not covered under [12.10] below are the Canyon Allotment (79 AUMs), One-O-One Allotment (117 AUMs), and the Pasture Allotment (5 AUMs) for a total of 201 AUMs [12.09].

See action 2.00 and 2.05.

See action 2.00 and 2.05.

See action 1.00.

See action 1.00.

See action 1.00.

See action 1.00.

Manage livestock grazing in the Lower Bennett Hills and Bennett Hills Geographic Reference Areas to ensure an average of no more than 30 percent of the current annual growth on important shrubs (bitterbrush, chokecherry, service berry) is utilized by livestock on crucial deer winter range [12.06].

Not applicable to this alternative.

Same as Alternative B.

TABLE 2.3  
Detailed Alternative Descriptions

Management Concerns	ALTERNATIVE A (Map 2.2) <i>(Existing Management)</i>	ALTERNATIVE B (Map 2.3) <i>(Existing Management)</i>	ALTERNATIVE C (Map 2.4) <i>(Existing Management)</i>	ALTERNATIVE D (Map 2.5) <i>(Preferred Alternative)</i>
No existing decision.	No existing decision.	No existing decision.	No existing decision.	Same as Alternative C.
Construct enclosures in the Lava Creek drainage, where conditions permit, for spring sources and channels [12.11].	Construct rangeland improvements as determined in activity plans to improve livestock management and achieve vegetation goals identified in action 1.00 [12.11].	Construct rangeland improvements as determined in activity plans to improve livestock management and achieve vegetation goals identified in action 1.00 [12.11].	Construct rangeland improvements as determined in activity plans to improve livestock management and achieve vegetation goals identified in action 1.00 [12.11].	Same as Alternative B.
Maintain the stock driveway at Macon Sheep foot bridge [12.12].	No existing decision.	Same as Alternative A.	Same as Alternative A.	Same as Alternative B.
Livestock use in the winter will be allowed only when food and cover are adequate to support the wildlife throughout the winter, and structural vegetation diversity of herbaceous and woody species is adequate to effectively trap and hold blowing snow to melt in place during the spring for soil moisture replenishment. The decision to allow livestock winter use will be supported by	Livestock use in the winter will be allowed only when food and cover are adequate to support the wildlife throughout the winter, and structural vegetation diversity of herbaceous and woody species is adequate to effectively trap and hold blowing snow to melt in place during the spring for soil moisture replenishment. The decision to allow livestock winter use will be supported by	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.

the appropriate site-specific Environmental Analyses. [12.13].

No existing decision.

Develop a Memorandum of Understanding and management plan with the USFS for management of the South Fork of Lime Creek and Big/Little Deer Creek areas to fully support the beneficial uses of cold water biota and salmonid spawning and improved compliance with the Federal Clean Water Act and the Governor's Antidegradation Agreement [12.14].

*Conduct limited archeological surveys to expand site inventories [13.00].*

Re-establish and re-record previously known archeological sites within class I, II and III areas [13.01].

Install a buried iron-bar datum point at each archeological site, record its location, describe the distribution and nature of archeological evidence and all significant features relative to the datum point, and photograph each archeological site and datum point and interpret the photograph [13.02].

Rank all known archeological sites on a scale of relative significance based on apparent depth, size, degree of preservation, etc. [13.03].

Develop an overall management program for all class I, II and III archeological sites to include a priority system for making decisions concerning salvage and/or protective measures, the establishment of general guidelines for acceptable levels of mitigation, and establish a system of site monitoring in consultation with the State Historic Preservation Officer [13.04].

Same as Alternative B.

Same as Alternative B.

Complete a class III cultural inventory on the planning area [13.00].

Same as Alternative A.

Same as Alternative A.

Same as Alternative A.

Same as Alternative B.

Develop an overall management program for all archeological sites to include a priority system for making decisions concerning salvage and/or protective measures, the establishment of general guidelines for acceptable levels of mitigation and establish a system of site monitoring in consultation with the State Historic Preservation Officer [13.04].

TABLE 2.3  
Detailed Alternative Descriptions

Management Concerns	ALTERNATIVE A (Map 2.2) <i>(Existing Management)</i>	ALTERNATIVE B (Map 2.3)	ALTERNATIVE C (Map 2.4) <i>(Preferred Alternative)</i>	ALTERNATIVE D (Map 2.5) <i>(Preferred Alternative)</i>
No existing decision.	Prohibit all land disturbing developments and uses on archaeological sites [13.05].	Prohibit all land disturbing developments on archaeological sites that cannot be adequately mitigated as determined by the authorized officer in consultation with the State Historic Preservation Officer [13.05].	Develop cooperative or volunteer agreement(s) for the investigation of Kevins Cave and other selected archeological sites [13.06].	Develop selected archeological sites for public on-site interpretative uses [13.07].
No existing decision.				<i>Permit military training exercises involving tracked vehicles or live ordinance to traditional use areas only, and restrict to existing roads and trails [14.00].</i>
No existing decision.				Military training exercises are not permitted in any Special Recreation Management Areas, Area of Critical Environmental Concerns, wildlife isolated tracts, wilderness or wilderness study areas, or areas under study for or included in the Wild & Scenic Rivers System [14.01].
No existing decision.				<i>Grant new land use permits or renew existing land use permits for fair market value rental only after the determination of a net gain to the multiple use management of the public land. The</i>

*authorized officer may enter into cooperative agreements with the applicant, at no rental cost, for a land usage to accommodate public land multiple-use objectives [15.00].*

No existing decision.

The following permits will not be renewed when they expire:

I-25733 (T1S, R16E, Sec 17); I-25883 (T5S, R12E, Sec. 8); I-27074 (T5S, R11E, Sec. 5&8); I-26588 (T1N, R12E, Sec. 25); I-26759 (T3S, R11E, Sec. 26); I-26821 (T6S, R14E, Sec. 4); I-26814 (T3S, R15E, Sec. 9); I-27552 (T9S, R19E, Sec. 6); I-27706 (T5S, R16E, Sec. 28); I-27680 (T7S, R18E, Sec. 17); I-27709 (T7S, R18E, Sec. 31) [15.01].

No existing decision.

*Provide habitat (see actions 1.00 - 1.04) to support viable populations and fulfill life cycle requirements of wildlife species that exist in the planning area [16.00].*

Initiate studies, in cooperation with the Idaho Dept. of Fish and Game, to identify what, if any, are the specific habitat requirements for deer fawning and elk calving, and a census technique or method to determine how many resident deer inhabit the Bennett Hills Resource Area [16.01].

No existing decision.

The following permits will not be renewed when they expire:

I-25733 (T1S, R16E, Sec 17); I-25883 (T5S, R12E, Sec. 8); I-27074 (T5S, R11E, Sec. 5&8); I-26588 (T1N, R12E, Sec. 25); I-26759 (T3S, R11E, Sec. 26); I-26821 (T6S, R14E, Sec. 4); I-26814 (T3S, R15E, Sec. 9); I-27552 (T9S, R19E, Sec. 6); I-27706 (T5S, R16E, Sec. 28); I-27680 (T7S, R18E, Sec. 17); I-27709 (T7S, R18E, Sec. 31) [15.01].

Expand fishing opportunities to accommodate at least 50,000 visitor days, and increase by 50% the number of desirable catchable fish in streams, canals and reservoirs by improvement of habitat and supplemental stocking [16.03].

Same as Alternative B.

Same as Alternative B.

Same as Alternative B.

Not applicable to this alternative.

Work with Idaho Fish & Game to identify, inventory and prepare a reintroduction/management plan for Mountain quail and sharp-tail grouse in the Upper and Lower Bennett Hills Geographic Reference Areas [16.02].

Same as Alternative B.

Same as Alternative B.

Comply with the *Federal Clean Water Act*, and the Governor's Antidegradation Agreement by improving the riparian vegetation. Fish habitat will be provided on streams with fishery potential [16.03].

**TABLE 2.3**  
**Detailed Alternative Descriptions**

Management Concerns	ALTERNATIVE A (Map 2.2) ( <i>Existing Management</i> )	ALTERNATIVE B (Map 2.3)	ALTERNATIVE C (Map 2.4)	ALTERNATIVE D (Map 2.5) ( <i>Preferred Alternative</i> )
Provide for a 100% increase in all game populations and huntable non-game species by improving wildlife habitat conditions [16.04].	Provide for a 100% increase in all game populations and huntable non-game species by improving wildlife habitat conditions [16.04].	See action 1.00.	See action 1.00.	See action 1.00.
Design all sagebrush control projects within a two mile radius of sage grouse strutting grounds in the Magic Reservoir area to avoid adverse impacts on nesting grouse [16.05].	Design all sagebrush control projects within a two mile radius of sage grouse strutting grounds in the Magic Reservoir area to avoid adverse impacts on nesting grouse [16.05].	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
Maintain goose and sea gull nesting areas on Magic Reservoir [16.06].	Maintain goose and sea gull nesting areas on Magic Reservoir [16.06].	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
No existing decision.	No existing decision.	Identify pronghorn antelope passage areas and take appropriate actions to provide unimpeded movement through fences and across roads [16.07].	Identify pronghorn antelope passage areas and take appropriate actions to provide unimpeded movement through fences and across roads [16.07].	Same as Alternative B.
		Provide for diverse recreation opportunities outside the Snake River Rim area [17.00].	Provide for diverse recreation opportunities outside the Snake River Rim area [17.00].	Same as Alternative B.
		Construct a hiking trail to the top of Black Butte and develop parking adjacent to Highway 75 at the Black Butte trail head. No construction will begin until after the status of the Black Butte Wilderness Study Area has been resolved [17.01].	Construct a hiking trail to the top of Black Butte and develop parking adjacent to Highway 75 at the Black Butte trail head. No construction will begin until after the status of the Black Butte Wilderness Study Area has been resolved [17.01].	Designate 80 acres along US Highway 93 and State Highway 75 (Twin Falls to Ketchum) as the River to the Mountains Special Recreation Management Area for a geological interpretive auto tour. Construct a hiking trail to the top of Black Butte and develop parking adjacent to Highway 75 at the Black Butte trail head. No construction will begin until after the status of the Black Butte Wilderness Study Area has been resolved [17.01].

Develop signing and/or a brochure directing and informing visitors of the Black Butte parking area and trail [17.02].

Same as Alternative C.

Develop signing and/or a brochure directing and informing visitors of the River to the Mountains recreation area [17.02].

No existing decision.

Same as Alternative A.

Same as Alternative C.

Not applicable to this alternative.  
Prepare a management plan for the River to the Mountains Special Recreation Management Area [17.03].

No existing decision.

Establish 6,608 acres as the Little City of Rocks Special Recreation Management Area (map symbol R) and 2,452 acres as the Magic Reservoir Special Recreation Management Area. Note: acreage for the Magic Reservoir area includes only the Bennett Hills planning area and does not reflect acreage on the Monument Resource Area side [17.04].

Same as Alternative C.

Establish 29,188 acres as the Gooding City of Rocks Special Recreation Management Area (map symbol R), 2,452 acres as the Magic Reservoir Special Recreation Management Area, and 3,243 acres as the Mormon Reservoir Special Recreation Management Area.  
Note: acreage for the Magic Reservoir area includes only the Bennett Hills planning area and does not reflect acreage on the Monument Resource Area side [17.04].

Develop and implement a comprehensive recreation activity plan for the entire Magic Reservoir area [17.05]

Same as Alternative C.

Prepare and implement an interdisciplinary management plan for the Mormon Reservoir and the Little City of Rocks Special Recreation Management Areas, and revise the management plan for the Magic Reservoir Special Recreation Management Area. Management plans will identify possible recreation site construction and will evaluate the need to institute fee sites [17.05].

No existing decision.

Same as Alternative C.

Seek to acquire (map symbol J) 267 acres of private land (T. 3 S., R. 15 E.) on the south boundary of the Little City of Rocks for inclusion in the Special Recreation Management Area; and acquire public access to the west side of Magic Reservoir [17.06].

Same as Alternative B.

Seek to acquire (map symbol J) 267 acres of private land (T. 3 S., R. 15 E.) on the south boundary of the Little City of Rocks, and any state or private land around Mormon Reservoir (T. 2 S., R. 14 E.), for inclusion in the Special Recreation Management Areas; and acquire public access to the west side of Magic Reservoir [17.06].

Improve vehicular access to the Gooding City of Rocks [17.07].

Same as Alternative B.

See action 17.05.

Same as Alternative B.

TABLE 2.3  
Detailed Alternative Descriptions

Management Concerns	ALTERNATIVE A (Map 2.2) <i>(Existing Management)</i>	ALTERNATIVE B (Map 2.3)	ALTERNATIVE C (Map 2.4)	ALTERNATIVE D (Map 2.5) <i>(Preferred Alternative)</i>
Develop hiking trails and provide minimal facilities for dispersed recreation use in the Gooding City of Rocks [17.08].	Develop a recreational trail management plan for public land in the Lower Bennett Hills and the Bennett Hills Geographic Reference Areas [17.08].	Develop a recreational trail management plan for public land in the Lower Bennett Hills and the Bennett Hills Geographic Reference Areas [17.08].	Sign the planning area transportation network to reduce risk and provide recreation and destination information for the public [17.09].	Sign the planning area transportation network to reduce risk and provide recreation and destination information for the public [17.09].
No existing decision.	Provide directional and interpretive signs for roads in the planning area [17.09].	Designate 26 miles of the Bliss-Hill City road (map symbol H) as a Back Country Byway [17.10].	Designate 55 miles of the Bliss-Hill City (map symbol H) and Davis Mountain (map symbol U) roads as Back Country Byways [17.10].	Designate 55 miles of the Bliss-Hill City (map symbol H) and Davis Mountain (map symbol U) roads as Back Country Byways [17.10].
No existing decision.	No existing decision.	Identify and develop primitive recreation sites along the Bliss-Hill City (map symbol H) Back Country Byway [17.11].	Identify and develop primitive recreation sites along the Bliss-Hill City Back Country Byway (map symbol H). The Davis Mountain Byway (map symbol H) will have no developed recreation sites [17.11].	Identify and develop primitive recreation sites along the Bliss-Hill City Back Country Byway (map symbol H). The Davis Mountain Byway (map symbol H) will have no developed recreation sites [17.11].
No existing decision.	No existing decision.	Upgrade and actively manage the Little Drops Recreation site [17.12].	Remove all facilities and rehabilitate the little drops recreation site [17.12].	Remove all facilities and rehabilitate the little drops recreation site [17.12].
No existing decision.	No existing decision.	Manage that portion of the Big Wood River below Magic Reservoir and above the Richfield Canal diversion for its fishery and riparian values [17.13].	Manage that portion of the Big Wood River below Magic Reservoir and above the Richfield Canal diversion for its fishery and riparian values. Seek to acquire Big Wood Canal Company water shares to enhance recreational fishing opportunities between Magic Reservoir and the Richfield Canal diversion in the Magic Reservoir Special Recreation Management Area [17.13].	Manage that portion of the Big Wood River below Magic Reservoir and above the Richfield Canal diversion for its fishery and riparian values. Seek to acquire Big Wood Canal Company water shares to enhance recreational fishing opportunities between Magic Reservoir and the Richfield Canal diversion in the Magic Reservoir Special Recreation Management Area [17.13].

Expand the parking and camping facilities at Mormon reservoir to provide for a one-time use capacity for 50 vehicles [17.14].	No applicable to this alternative.
Maintain the public availability of known rock collecting areas and record and manage any new areas [17.16].	Same as Alternative A.
Open all public land in the Lower Bennett Hills and the Bennett Hills Geographic Reference Areas to off-highway vehicle use [18.00].	Designate 574.480 acres as open to off-highway vehicle use; 71.206 acres as limited off-highway vehicle use (map symbol L) and 4.100 acres as closed (map symbol F) to off-highway vehicle use [18.00].
No existing decision.	Place the King Hill area under a seasonal (11/15 to 12/31) limitation for vehicle use to designated roads and trails if adverse weather conditions are present that would result in damage to the soils and watershed resource from uncontrolled off-highway vehicle use [18.01].
Install cattleguards or easy-open gates at every road or trail, and at least every mile in all fences [18.02].	Not applicable to this alternative.
Close the critical deer and elk winter ranges to off-highway vehicle use from December 15 through March 31 [18.03].	Close deer, sage grouse and pronghorn antelope winter concentration areas to vehicle and snow machine use during years with severe weather conditions in the Lower Bennett Hills, Snake River Plain, and Snake River Rim Geographic Reference Areas. Closure needs and areas would be determined through consultation with Idaho Department of Fish and Game [18.03].
Enter into a Memorandum Of Understanding or Cooperative Management Agreement with Idaho Department of Fish & Game for the joint management of recreation use at Mormon Reservoir [17.15].	Designate 575.676 acres open, 70 acres limited (map symbol L), and 10 acres closed (map symbol F) [18.04].
Same as Alternative B.	Same as Alternative B.
Same as Alternative A.	Same as Alternative A.
Same as Alternative B.	Same as Alternative B.
Same as Alternative A.	Same as Alternative A.
Same as Alternative B.	Same as Alternative B.
Same as Alternative A.	Same as Alternative A.
Not applicable to this alternative.	Not applicable to this alternative.
Not applicable to this alternative.	Not applicable to this alternative.
Not applicable to this alternative.	Not applicable to this alternative.

**TABLE 2.3**  
**Detailed Alternative Descriptions**

Management Concerns	ALTERNATIVE A (Map 2.2) (Existing Management)	ALTERNATIVE B (Map 2.3)	ALTERNATIVE C (Map 2.4) (Existing Management)	ALTERNATIVE D (Map 2.5) (Preferred Alternative)
Close areas within $\frac{1}{2}$ mile of known eagle aeries to off-highway vehicle use [18.04].	No existing decision.	Not applicable to this alternative.	Not applicable to this alternative.	Not applicable to this alternative.
		<i>Manage the Thorn Creek Pilot Riparian Area (5,932 acres) to comply with the Federal Clean Water Act and the Governor's Antidegradation Agreement. Continue to operate and manage the Pilot Riparian Area, the larger Thorn Creek watershed and the Special Recreation Management Area as a demonstration area for multiple use management with special emphasis on riparian improvement and outdoor recreation opportunities associated with the stream and the reservoir [19.00].</i>	Same as Alternative B.	Same as Alternative B.
				<i>Establish 636 acres as the Thorn Creek Reservoir (map symbol R) Special Recreation Management Area [19.01].</i>
				<i>Revise the Thorn Creek Pilot Riparian Area management plan to include management of the Special Recreation Management Area and requirements of the Federal Clean Water Act and the Governor's Antidegradation Agreement [19.02].</i>
				Close the meadows in the Thorn Creek Pilot Riparian Area to vehicle use (map symbol F) [19.03].
				Same as Alternative B.

*The 649,786 acres in the resource area will remain unclassified for Visual Resource Management [20.00].*

<i>Manage 241 acres as Visual Resource Management Class I, 215,783 acres as Class II, 360,608 acres as Class III, 73,154 acres as Class IV [20.00].</i>	Same as Alternative B.
<i>Consider impacts to visual resources for all management actions through the National Environmental Policy Act compliance process [20.01].</i>	Same as Alternative B.
<i>No existing decision.</i>	Same as Alternative B.
<i>Analyze all impacts to riparian areas and wetlands to ensure compliance with Executive Orders 11990 and 11988 [21.00].</i>	Same as Alternative B.
<i>Allow development of utility systems along existing systems or in utility corridors identified in the 1976 Bennett Hills Unit Resource Analysis [22.00].</i>	Same as Alternative B. <i>Allow development of utility systems along existing routes, except in avoidance or exclusion areas identified in other decisions [22.00].</i>
<i>Lease the land in the NW 1/4 SW 1/4 of Section 32, T.5S., R.13E. to the City of Bliss for use as a dump site for rocks, trees, etc. [22.01].</i>	Not applicable to this alternative.
<i>Allow communications site development on Davis Mountain and Johnson Hill in conjunction with communication facilities already in place [22.02].</i>	Same as Alternative A.
<i>Inventory unauthorized dumping areas and start clean up, rehabilitation, and posting of these sites [23.00].</i>	Same as Alternative A.
<i>Allow oil and gas leasing, providing for protection of the environment through adequate lease stipulations [24.00].</i>	Same as Alternative B. <i>Allow mineral leasing, providing for protection of the environment through adequate lease stipulations with no surface occupancy as identified in other actions [24.00].</i>
<i>Approve geothermal lease applications unless some overriding resource value (e.g. deer winter range, eagle nesting areas, etc.) would be destroyed [24.01].</i>	Same as Alternative B. <i>Approve geothermal lease applications unless the appropriate level of National Environmental Policy Act documentation determines that other resources would be adversely impacted [24.01].</i>

**TABLE 2.3**  
**Detailed Alternative Descriptions**

Management Concerns	ALTERNATIVE A (Map 2.2) (Existing Management)	ALTERNATIVE B (Map 2.3)	ALTERNATIVE C (Map 2.4) (Preferred Alternative)	ALTERNATIVE D (Map 2.5) (Preferred Alternative)
<i>Ensure areas with potential for production of gold and/or diatomaceous earth remain open to exploration and available for mineral development, while minimizing potential damage to the environment [25.00].</i>	<i>Allow locatable mineral exploration and mining, providing for protection of the environment through adequate stipulations on Plans of Operation and withdrawal limitations as identified in other actions [25.00].</i>	<i>Allow locatable mineral exploration and mining, providing for protection of the environment through adequate stipulations on Plans of Operation and withdrawal limitations as identified in other actions [25.00].</i>	<i>Same as Alternative B.</i>	<i>Same Not applicable to this alternative.</i>
<i>Recommend as suitable for wilderness designation by Congress, 6,287 acres in the Gooding City of Rocks West Wilderness Study Area (ID-54-8b) and 13,063 acres in the Gooding City of Rocks East Wilderness Study Area (ID-54-8a) [26.00].</i>	<i>Recommend as suitable for wilderness designation by Congress, 6,287 acres in the Gooding City of Rocks West Wilderness Study Area (ID-54-8b) and 13,942 acres in the Gooding City of Rocks East Wilderness Study Area (ID-54-8a) [26.00].</i>	<i>Recommend as suitable for wilderness designation by Congress, 6,677 acres in the Gooding City of Rocks West Wilderness Study Area (ID-54-8b) and 13,942 acres in the Gooding City of Rocks East Wilderness Study Area (ID-54-8a) [26.00].</i>	<i>Same as Alternative B.</i>	<i>Same as Alternative B.</i>
<i>Recommend as nonsuitable for wilderness designation by Congress, 5,875 acres in the Little City of Rocks Wilderness Study Area (ID-54-5), 10,371 acres in the Black Canyon Wilderness Study Area (ID-54-6), 1,680 acres in the Gooding City of Rocks East Wilderness Study Area (ID-54-8a), 7,487 acres in the Deer Creek Wilderness Study Area (ID-54-10), 4,068 acres in Black Butte Wilderness Study Area (ID-54-2) and 6,914 acres in the Shoshone Wilderness Study Area (ID-59-7) [26.01].</i>	<i>Recommend as nonsuitable for wilderness designation by Congress, 6,515 acres in the Little City of Rocks Wilderness Study Area (ID-54-5), 11,011 acres in the Black Canyon Wilderness Study Area (ID-54-6), 1,680 acres in the Gooding City of Rocks East Wilderness Study Area (ID-54-8a), 8,127 acres in the Deer Creek Wilderness Study Area (ID-54-10), 4,068 acres in Black Butte Wilderness Study Area (ID-54-2) and 6,914 acres in the Shoshone Wilderness Study Area (ID-59-7) [26.01].</i>	<i>Recommend as nonsuitable for wilderness designation by Congress, 6,515 acres in the Little City of Rocks Wilderness Study Area (ID-54-5), 11,011 acres in the Black Canyon Wilderness Study Area (ID-54-6), 1,680 acres in the Gooding City of Rocks East Wilderness Study Area (ID-54-8a), 8,127 acres in the Deer Creek Wilderness Study Area (ID-54-10), 4,068 acres in Black Butte Wilderness Study Area (ID-54-2) and 6,914 acres in the Shoshone Wilderness Study Area (ID-59-7) [26.01].</i>	<i>Same as Alternative B.</i>	<i>Same as Alternative B.</i>
<i>Continue livestock grazing in all wilderness study areas [26.02].</i>	<i>Same as Alternative A.</i>	<i>Same as Alternative A.</i>	<i>Same as Alternative A.</i>	<i>Same as Alternative B.</i>
<i>Open to vehicle use, all wilderness study areas released by Congress from wilderness consideration [26.03].</i>	<i>Limit to vehicle use, as per action [18.00], all wilderness study areas</i>			<i>Same as Alternative B.</i>

released by Congress from wilderness consideration [26.03].

Close to vehicle use, all wilderness study areas designated by Congress as wilderness areas (Note: This action would be accomplished as part of the wilderness authorizing legislation enacted by Congress, but is included here to provide a comprehensive picture for the reader) [26.04].

Manage wilderness study areas for other multiple use values upon release by Congress (Note: This action would be accomplished as part of the release legislation enacted by Congress, but is included here to provide a comprehensive picture for the reader) [24.05].

No existing decision.

Same as Alternative A.

Same as Alternative B.

Inventory all land acquired within, or adjacent to, wilderness study areas for wilderness suitability and include suitable land in the wilderness study area. Suitable land acquired within, or adjacent to, wilderness study areas will be managed in accordance with appropriate wilderness study area recommendations and decisions and under the BLM's Wilderness Interim Management Policy. If designated as wilderness by Congress, acquired land will be managed as wilderness in accordance with Congressional directives and management actions prescribed for the adjacent wilderness study area [26.06].

Close to vehicle use, upon designation by Congress as wilderness, cherrystem roads extending into the Gooding City of Rocks East Wilderness Study Area from the northern and eastern boundaries for a total of three miles [26.07].

Close, upon designation by Congress as wilderness, 3.5 miles of road separating

Same as Alternative A.

Same as Alternative B.

Same as Alternative B.

Same as Alternative A.

TABLE 2.3  
Detailed Alternative Descriptions

Management Concerns	ALTERNATIVE A (Map 2.2) (Existing Management)	ALTERNATIVE B (Map 2.3)	ALTERNATIVE C (Map 2.4)	ALTERNATIVE D (Map 2.5) (Preferred Alternative)
the Gooding City of Rocks East Wilderness Study Area from the Gooding City of Rocks West Wilderness Study Area except for maintenance of livestock facilities [26.08].	Withdraw, upon designation by Congress as wilderness and subject to valid existing rights, the 13,063 acres recommended as suitable in the Gooding City of Rocks East Wilderness Study Area from all forms of appropriation under mineral leasing and mining laws (Note: This action would be accomplished as part of the wilderness authorizing legislation enacted by Congress, but is included here to provide a comprehensive picture for the reader) [26.09].	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
		Close to vehicle use, upon designation by Congress as wilderness, cherrystem roads extending into the Gooding City of Rocks West Wilderness Study Area from the northern boundaries for a total of 0.8 mile [26.10].	Same as Alternative A.	Same as Alternative A.
			Withdraw, upon designation by Congress as wilderness and subject to valid existing rights, the 6,287 acres recommended as suitable in the Gooding City of Rocks Wilderness Study Area from all forms of appropriation under mineral leasing and mining laws [26.11].	Same as Alternative A.
			No existing decision.	Limit vehicle use to existing ways and Same as Alternative B.

trails in all wilderness study areas (including acquired state land), except in the case of emergency vehicle use such as fire suppression, search and rescue, or other government administrative needs as approved by the authorized officer.	Conduct validity determinations on existing claims in wilderness study areas that have not had a determination [26.13].	Same as Alternative C.
Limitations are to remain in effect until Congress acts as per actions 26.03 through 26.04 [26.12].		
No existing decision.	Same as Alternative A.	Same as Alternative C.
Conduct validity determinations on existing claims in wilderness study areas recommended suitable [26.13].	<i>Manage forests to meet desired future condition and forest health goals and objectives rather than wood fiber production.</i>	<i>Manage forests to meet desired future condition and forest health goals and objectives rather than wood fiber production.</i>
Congress acts as per actions 26.03 through 26.04 [26.12].		
<i>Intensively manage areas that are capable of timber production [27.00].</i>		
No clear-cut will exceed 45 acres [27.01]	No clear-cut will exceed 45 acres [27.01]	Same as Alternative A.
Maximum clear-cut widths will be 1,600 feet on big game winter range and 1,000 feet on summer range [27.02].	Maximum clear-cut widths will be 1,600 feet on big game winter range and 1,000 feet on summer range [27.02].	Same as Alternative A.
No timber harvest on crucial elk or deer winter range except in case of damage by disease, insects, fire, etc., or unless the harvest would be beneficial to the big game involved [27.03].	No timber harvest on crucial elk or deer winter range except in case of damage by disease, insects, fire, etc., or unless the harvest would be beneficial to the big game involved [27.03].	Same as Alternative A.
Cut in a mosaic or mottled pattern [27.04].	Cut in a mosaic or mottled pattern [27.04].	Same as Alternative A.
Strive for a ratio of 60 percent forage to 40 percent cover on harvested timber stands [27.05].	Strive for a ratio of 60 percent forage to 40 percent cover on harvested timber stands [27.05].	Same as Alternative A.

TABLE 2.3  
Detailed Alternative Descriptions

Management Concerns	ALTERNATIVE A (Map 2.2) (Existing Management)	ALTERNATIVE B (Map 2.3)	ALTERNATIVE C (Map 2.4)	ALTERNATIVE D (Map 2.5) (Preferred Alternative)
Maintain snags for wildlife. Each area to be harvested will be evaluated and guidelines will be developed for the number of snags to be retained [27.06].	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
Comply with the provisions of the <i>Idaho Forest Protection Act</i> [27.07].	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
A 200-foot radius will be left around nests of sensitive bird species. Other nests will be protected to the extent practical [27.08].	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
Firewood, Christmas trees, posts and poles, and other woodland products will be sold on vegetative permits. These sales will be evaluated on a case-by-case basis [27.09].	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Every five years after the Record of Decision, report to the general public and participants in the plan development, the progress made in implementation of this plan and the achievement of the desired future vegetation condition goals [28.00].
No existing decision.			Same as Alternative B.	Same as Alternative B.

# Chapter Three: Affected Environment

This chapter describes the physical, biological, social, and economic characteristics of the resources administered by the Bennett Hills Resource Area.

These resources affect, or are themselves affected by, the management actions in this plan. This chapter is to serve as base line data for identifying and analyzing the impacts of the plan's four alternatives. All the information in this chapter is summarized from the Management Situation Analysis, *The Final Shoshone Grazing Environmental Impact Statement* (1979), and the *Proposed Monument Resource Management Plan and Final Environmental Impact Statement* (1987) on file at the Shoshone District Office. These documents are available for public examination at the Shoshone District Office during normal business hours.

## History

The history of a land is written in the remains of the things that were and in the chronicles of those who have used the land. The land itself is not a good archive of history, for as thousands of years have passed, events from decade to decade, from eon to eon have erased the traces of events from previous decades and eons. We are fortunate that nature is an imperfect destroyer of these records. From the traces that remain, geologists, paleontologists, and archaeologists have pieced together remnants of the unwritten history of the country.

This land is dynamic: ever changing and ever in motion. Land has been created through volcanoes, lava flows and the massive movement of the earth's crust. Mountain ranges have formed only to be worn down by glaciers moving across the surface, grinding away the rock, and filling the valleys with the powdered rock and gravel from the once mountainous terrain. This material, once transported to the valleys, became the soil that supported a variety of vegetation. Some of this material was washed away to the oceans by melting snow, glacial water or rain. Some was covered by new lava from new volcanoes. Some was buried deeply, as with the Camas Prairie, as the very crust of the earth slowly sank. Sometimes huge blocks, like the Snake River

Plain, descended while simultaneously new rock was extruded from the Great Rift of the Craters of the Moon. These same lavas dammed up the Snake River, forming a huge lake. The lavas changed the course of rivers, created mountains where valleys used to be, and valleys where mountains once stood.

While the earth moved, the climate changed. Several times, during glacial periods, the earth was covered with ice and snow. When the ice receded, sometimes the land became temperate, supporting a variety of vegetation. Sometimes the land became arid. When the land was arid and cold, it was known as a tundra and a desert when the land was arid and hot. Almost every climate has occurred on this land. We have seen some of these minor changes in our own lifetimes. Droughts in recent years, and only a few years before record snow fall and spring rains. The changes we have witnessed are minor compared to some in the past.

It was at the end of the last great climatic event from 12,000 to 15,000 years ago that man first set foot on this land. While glaciers still covered the continent, vast expanses of land were exposed in the Bering Sea allowing man to enter the new world of North America from Asia. This new land had abundant wildlife. Mammoth, camel, horse, musk ox, and a bison much larger than today's bison grazed and foraged throughout much of the land not covered with ice. The cooler temperatures and slightly wetter weather made the grasses more abundant. These people, sometimes known as Clovis, Folsom, or later as the Haskett people, were hunters and gatherers who followed the big game. They learned to live on the various grasses, plants and herbs that grew in the lush cool climate. In Central Idaho these people camped in places like Wilson Butte Cave and Kelvins Cave, and foraged around the Camas Prairie that was flooded with glacial melt waters. It apparently took little time for the people to learn sources of food, medicine, and building material from the land. The abundance of the new home made the newcomers unchallenged conquerors of the land.

Beginning about 7,500 years ago, the land experienced a great drought called the Altithermal. Most of the area we know as the Great Basin became arid. There were probably "islands" of grasses and vegetation around the perennial streams, but we believe that most of the land was sparsely vegetated. The large animals that once roamed the land, and

## History

were hunted by the people, became extinct. The drought lasted about 3,000 years and changed the face of the land for all inhabitants. New ways of hunting and a new knowledge of the land had to be discovered. Some people moved from the land that had once provided so well and found other land that could provide them a livelihood.

In a few thousand years, man had migrated into almost every corner of North and South America. These people adapted to local and regional environments. The different characteristics of the tribes we now know as Navaho, Iroquois, Mandan, Cherokee, and Aleut began to develop. Drought, famine, warfare and population growth caused the people to move into different areas of the country until most of the land was "claimed" by some tribe or band. This territoriality was not complete ownership as we know it. Rather, it seems to have been the right to use the land and its resources, provided permission was given through clan or tribal association, or through direct contact.

They called themselves "The People" in Idaho. They identified themselves with a larger group that covered most of the Great Basin and went as far east as the northern Plains of eastern Montana. They called themselves Agaiduka, Yahanduka, Yamb:duka, Tutwanait Tukaduka, Kuembeduka, or Bana'kwut. Their neighbors, the Crow, called them "Bik-ta'-she" (Grass lodges). The Omaha and Ponca called them "Wes anikaci ga" (Snake People) and the Atsina called them Sisizhanin or rattlesnake men. They fished for salmon on the Snake River, dug for camas on the Camas Prairie, hunted buffalo, deer, mountain sheep, and sage grouse to sustain life and wintered in places like Baker cave. They learned to eat the seeds of the various grasses that were native to the area and cooked stinging nettle for food. To live in this unforgiving country they had to move from place to place, hunting and gathering in an area until there was no longer sufficient food supply to feed the group. They would then move again to where food was more abundant. It might be said that they had an understanding of the land.

They learned to use fire for hunting and warfare. They mined obsidian, chert, and other rock to make tools. They left their signs or stories on the rocks.

Some of their activities changed the land and its vegetation in their 5,000 years in this land. Man left his mark on the land he claimed as his own.

When the Europeans came to this country beginning in the early 1800's, they called the people who were living here Sho-sho-cees or Sho-sho-nees. Europeans came to Idaho first to find a route to the Pacific Ocean and later to find new resources the land could provide. It was important to these people to inhabit the new land so it could be claimed for the growth of a nation. At first, people came to hunt and capture beaver whose hides were shipped to the East to be made into hats. Peter Skene Ogden was one of the first to trap this land. In his several trips through what is now Idaho, he took thousands of beaver hides back to his home on the Columbia River, the Hudson Bay Company fort, and then shipped the beaver hides to England. Because he was competing with the American Fur Company, he decided to leave Idaho without beaver as a "no mans land" between the two companies. In this he was nearly successful. Without the beaver to control the water flow in the streams, erosion of the valleys and hillsides was unchecked. Man had left a mark on the land.

In the 1850's a second group of people came in search of new land to cultivate. They came in wagons with cattle, sheep and plows. Available land for farming was not in abundance in this country. Where they could, they cut down the sagebrush and turned the soil to raise new kinds of plants. Some of these plants were to feed themselves and others to feed the animals they raised for food. With these new plants and animals came other plants and diseases that could thrive because the native plants were not able to compete with them. Sometimes these new strains choked out the native plants while in others they aided the native plants. The diseases brought in by these new animals infected the native animals as well as their own herds. These people introduced animals to the area such as pheasant and chukker. These animals thrived in the new land because they did not compete with native animals. They built fences to keep their own animals and the native animals out of their crops. For some animals like the elk, pronghorn, mountain sheep, mountain goat and bison, the effects of the increased population of people were the loss of habitat and the decreased

numbers of these animals. For some animals like the deer, there was an increase in population. Man's presence on the land made a change. Man changed the land he called his own to better meet his own needs.

The next group of people to come to the land in the 1860's came to extract precious minerals from the land. These people claimed the land and dug to extract that which they valued. This made some people prosper and impoverished others. The hillsides were probed in search of veins of gold or silver. Once the riches were extracted, they left the land. Toxic materials were brought to the surface through some holes left behind by the miners.

Erosion and the forces of nature reclaimed the land, filling the holes and collapsing the tunnels. Man had carved the land to extract its valuables, left his mark, then relinquished his claim.

People with visions were the last group to come and claim the land in the 1870's. In an arid land, these people would quench the thirst of the soil to grow more crops. Sinuous canals carried water from the deep channel of the Snake River, across a landscape that rarely tasted the nurturing fluid. These life lines of water transformed parts of the land into a garden. The sage of thousands of years that had nourished and protected both man and wildlife was lost to the plow. But now more people could come to the land and enjoy some fruits of the arid landscape that had not fallen to the plow. Still more came to help feed these people. By sheer numbers, people leave their mark upon the ever changing land.

## Planning Area General Description

The following is a description of the affected environment for the entire planning area. This general description is a composite of the affected environment descriptions for each of the geographic reference areas.

### Climate and Air Quality

The climate of the planning area is a modified continental type influenced by Pacific air masses with cold, snowy winters and hot, dry summers. Precipitation generally follows elevation with lower

amounts at lower elevations, and higher amounts at higher elevations. Most of the precipitation is received during late fall, winter, and spring, while the summers are typically very dry. Snow is common from December through February.

Precipitation amounts vary by reporting location within the planning area. Precipitation amounts increase from south to north and from west to east. Average annual precipitation figures for the crop year (October-September) from four weather stations in the planning area are shown in Table 3.1. The average total annual precipitation for three selected weather stations for the years 1984 through 1992 is shown in Table 3.2.

Snowfall normally occurs in a series of storms between November and April. Duration of the snowpack varies widely within the planning area depending on elevation and aspect, but it generally remains on the higher elevations as much as two months longer than on the lower elevations. This crop year precipitation is more indicative, in timing and amount, of the moisture available for plant growth than total annual precipitation by calendar year. Yearly precipitation fluctuates between 50 and 200 percent of normal. These fluctuations cause corresponding variations in vegetation production.

The growing season (frost-free period) varies with elevation, exposure, air drainageways, and other factors. The average number of days with temperatures of 32°F or above, in the spring and fall for the period 1985-1990, and the annual temperature of eight selected reporting stations in or near the planning area are shown in Table 3.3.

The Idaho Air Quality Bureau says no community or location within the planning area has non-attainment status, i.e., fails to meet existing Idaho air quality standards (Johnson, 1989). Occasionally, there are localized temporary reductions in air quality from high particulate matter. The primary causes are agricultural dust in the spring; field burning and/or wildland fires in the summer and early fall; temperature inversions coupled with home heating using coal, oil, or wood in the late fall and winter. Normally, these clear out within a few hours or days as moving air dissipates the dust or smoke.

## Climate and Air Quality

The State Climatologist points out that no current activity occurring in the planning area is making a known contribution to global climatic change (Molnau 1991).

TABLE 3.1  
Average Precipitation at Four Selected Weather Stations  
for the *Crop Year* (October - September)  
Bureau of Land Management  
Shoshone District, Idaho

Month	Bliss 3275 Feet	Gooding 3690 Feet	Shoshone 3950 Feet	Fairfield 5020 Feet
October	0.54 (0.50)	[0.60]	0.54 (0.64)	0.77
November	1.36 (1.20)	[1.08]	1.26 (1.24)	1.98
December	1.48 (1.33)	[1.33]	1.53 (1.55)	2.74
January	1.45 (1.21)	[1.25]	1.42 (1.54)	2.81
February	0.87 (0.84)	[0.96]	0.91 (1.10)	1.45
March	0.83 (0.77)	[0.88]	0.92 (0.89)	1.24
April	0.79 (0.68)	[0.60]	0.71 (0.67)	0.99
May	0.80 (0.94)	[0.95]	0.69 (0.93)	0.95
June	1.04 (0.93)	[0.72]	0.90 (0.91)	1.40
July	0.21 (0.12)	[0.11]	0.19 (0.15)	0.34
August	0.41 (0.24)	[0.12]	0.46 (0.31)	0.71
September	0.49 (0.31)	[1.33]	0.57 (0.48)	0.65
Yearly Average	10.29 (9.07)	[8.93]	10.11 (10.41)	15.89

Source: Shoshone EIS, 1979, Table 2-1. That table has the following explanatory footnotes:

- \* All numbers not in parentheses are from the 1961-1977 Climatological Data for Idaho, National Oceanic Atmospheric Administration (NOAA).
- \* Numbers in parentheses are long-term normal precipitation as given as departures in the 1977 Climatological Summary, NOAA.
- \* Numbers in brackets from Base Period of Gooding Station Records 1941-1959, were taken from records of U.S. Department of Commerce Weather Bureau. 1964. Climatology of the U.S. No. 86-8.

TABLE 3.2  
 Average Total Precipitation at Three Selected  
 Weather Stations for Years 1984 Through 1992  
 Bureau of Land Management  
 Shoshone District, Idaho

Year	Bliss 3275 Feet	Shoshone 3950 Feet	Fairfield 5020 Feet
1984	11.69	9.55	17.95
1985	10.50	6.82	15.42
1986	11.13	10.32	14.51
1987	7.31	9.31	13.28
1988	10.98	10.62	14.24
1989	8.65	8.78	7.06
1990	9.26	7.15	N/A
1991	9.82	9.96	15.18
1992	6.32	6.11	10.17
Yearly Average	10.29	10.11	15.89

Source: *1964-1991 Climatological Data for Idaho, National Oceanic Atmospheric Administration (NOAA)*.

TABLE 3.3  
 Frost-Free Days and Average Annual  
 Temperature for Eight Selected Reporting  
 Stations at Various Elevations  
 Bureau of Land Management  
 Shoshone District, Idaho

Reporting Station	Elevation (Feet)	Frost-free Days (1985-1990)	Mean Annual Temperature (1989)
Glenns Ferry	2,510	125	51.9°F.
Hagerman	2,875	140	51.0°F.
Bliss	3,275	147	50.4°F.
Twin Falls	3,670	138	48.9°F.
Jerome	3,740	139	49.7°F.
Shoshone	3,950	129	50.2°F. <u>1/</u>
Hazelton	4,060	137	48.5°F.
Fairfield	5,020	42	38.7°F.

Source: Climatological Data, 1985, 1986, 1987, 1988, 1989, 1990.

1/ Data not shown for 1989. Data for 1990 is given.

## Soils

The soils found in the planning area have either already been mapped by the Soil Conservation Service, or are currently being mapped. Three soil survey reports have been published by the Soil Conservation Service. Camas County Area was published in 1981. Blaine County Area and Elmore Area were both published in 1991. The other two soil surveys, Jerome and Twin Falls Counties, and Wood River Area are in progress. Those surveys are planned for publishing in 1993 and 1994 respectively.

Four broad groups of soils found in the planning area are shown on Map 3.1. The four groups are also described in Table 3.4, which includes the acreage of each group.

More detailed soil mapping unit descriptors (letters and/or numbers), map unit names, and the associated ecological (range) site numbers and names found in the planning area are available upon request from the Shoshone District Office. That detailed information provides the basis for predicting the kinds and amounts of vegetation that a soil series, a soil association, or a soil complex, can produce. That idea is used to set broad vegetation management or manipulation goals in this plan.

Based on the *Shoshone and Sun Valley Environmental Impact Statements*, and the *Monument Proposed Resource Management Plan/Final Environmental Impact Statement*, the current soil erosion loss is approximately 4.1 tons per acre per year.

**TABLE 3.4**  
**Acres of Major Soil Groups on Public Land**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

	Major Soil Group Description	Acres
Group I	Soils on river terraces formed in lacustrine (lake) deposits, in stream terraces formed in mixed alluvium, in wind-modified alluvium, or in valley-fill alluvium (Camas Prairie).	38,722
Group II	Soils on basalt plains and buttes formed in eolian (wind) deposited material, or in material derived from basalt.	391,742
Group III	Soils on foothills and escarpments formed in material derived from andesite, basalt, rhyolite, and tuff.	206,560
Group IV	Soils on mountains and foothills formed in material derived from granite.	12,762
<b>Total of All Major Soil Groups</b>		<b>649,786</b>

Source: Soil Survey of Blaine County Area, Idaho, 1991. USDA, Soil Conservation Service. General Soil Map, Map Section, page 1.

Soil Survey of Camas County Area, Idaho, 1981. USDA, Soil Conservation Service. General Soil Map, Map Section, page 1.

Soil Survey of Elmore Area, Idaho, 1991. USDA, Soil Conservation Service. General Soil Map, Map Section, page 1.

Johnson, Mark. 1991. Preliminary general soil map for the in-progress Wood River Area Soil Survey. Request for information by BLM to the soil survey party leader, Gooding, Idaho.

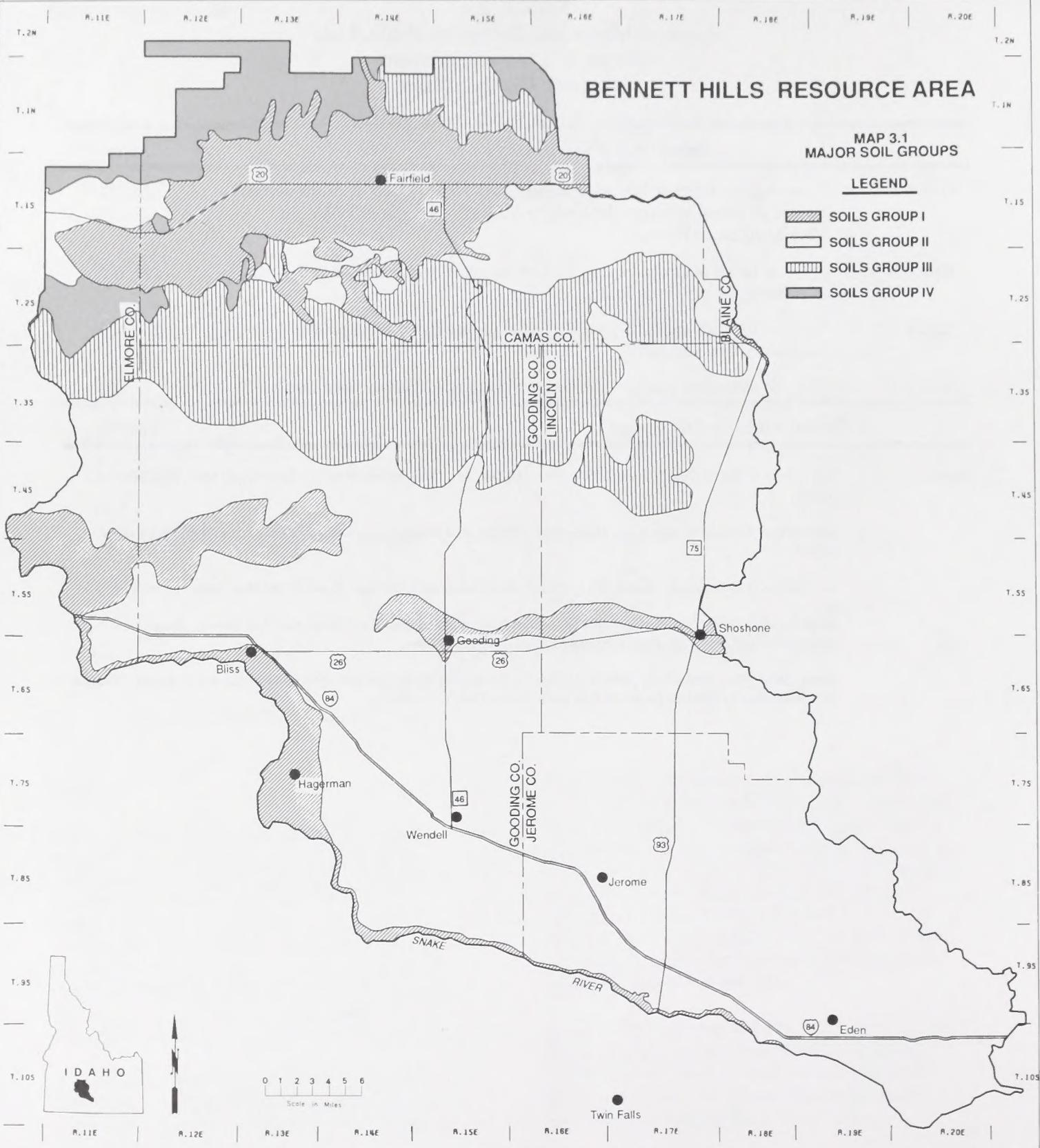
Ames, Dal. 1991. Preliminary general soil map for the in-progress Jerome and Twin Falls Counties Soil Survey. Request for information by BLM to the soil survey party leader, Twin Falls, Idaho.

## BENNETT HILLS RESOURCE AREA

MAP 3.1  
MAJOR SOIL GROUPS

LEGEND

- SOILS GROUP I
- SOILS GROUP II
- ▨ SOILS GROUP III
- ▨ SOILS GROUP IV



## Water

The entire Bennett Hills planning area comprises about 8 percent of the 28,320 square mile Upper Snake River Basin. The Upper Snake River Basin has an estimated annual water yield of about four million acre-feet of which about 342,000 acre-feet is recorded as runoff. Agriculture, with annual consumptive use requirements of nearly three million acre-feet, represents the single greatest use of water in the Upper Snake River Basin. Irrigation represents approximately 97 percent of the water consumptively used (Shoshone EIS, 1979, P. 2-19). All other uses of water-domestic, industrial, livestock and wildlife, and aquatic habitat-use only about 3 percent of the total water used.

Surface water availability varies widely in the planning area. On the Snake River Plain the major naturally occurring streams are the Big and Little Wood Rivers that join to form the Malad River, which then flows into the Snake River. The Bennett Hills and the footslopes of the Soldier Mountains yield surface water in the form of numerous springs, seeps and streams, most of which is intermittent, flowing water only until mid to late summer. The major naturally occurring streams in the hills are Camas, Clover, and King Hill Creeks.

Within the planning area, 428 miles of perennial stream and 2,661 miles of ephemeral stream run across all ownerships (source: BLM Geographic Information System). Of that total, 97 miles of perennial stream and 1,167 miles of ephemeral streams run on public land.

Man-made streams, as irrigation canals and a network of ditches, provide agricultural water from mid-April through mid-October. One important canal is the Milner-Gooding Canal, which forms the eastern boundary of the planning area from Milner Dam to Shoshone, and provides water to the Shoshone and Gooding areas. Another major canal is the North Side Main Canal which provides water to the Eden, Hazelton, Jerome, Wendell, Hagerman, Gooding and Bliss areas.

In 1977 the President signed the *Federal Clean Water Act*. The objective of the Act is to "restore and

maintain the chemical, physical, and biological integrity of the Nation's waters." This applies to both surface water and ground water.

Section 313 of the Act requires the BLM (and all federal agencies) comply with state water quality standards. Idaho's water quality standards describe beneficial uses, define minimum criteria for protecting beneficial uses, and the way that land use activities must be conducted to protect or enhance beneficial uses of water. This section also subjects all federal agencies to the same administrative procedures and legal requirements as all non-Government entities.

Section 319 of the Act requires that BLM be consistent with approved non-point source management programs. The *Idaho Non-point Source Management Program* was approved by the Environmental Protection Agency in December 1989. This program is based on the "feedback loop" process. That is, site-specific objectives to protect or enhance water quality (protect or enhance beneficial uses) are developed, Best Management Practices are designed and implemented, the activities are monitored, data is evaluated, and changes, if necessary, are carried out and the process repeated.

Another component of the *Idaho Non-point Source Management Program* is the state's Antidegradation Policy for activities that might contribute to non-point source pollution of rivers, streams and lakes. The Governor's negotiation plan for bringing the many interested parties together led to the "antidegradation agreement" (Water Agreement) for Idaho. The Water Agreement provided the guidelines for setting up Idaho's antidegradation policy. On November 14, 1988, Governor Cecil D. Andrus signed Executive Order No. 88-23 stating the antidegradation policy for Idaho and carrying out of that policy.

The BLM has waived federal immunity to state law in this case because Congress has empowered the states to implement the *Federal Clean Water Act*. The Governor's executive order is binding upon all federal agencies who manage land, or advise land owners on the management of land, within the state's boundaries.

Executive Order 88-23 also provided for the appointment of a Water Quality Advisory Working Committee to designate Stream Segments of Concern, which will receive additional water quality emphasis. Within the planning area, several Stream Segments of Concern have been designated. These are shown in Table 3.5 along with the reason for designation, the BLM grazing allotments affected, and the identified beneficial uses of the water. The stream segments are shown on Map 3.2.

The State of Idaho designates seven beneficial uses of water, shown in Tables 3.6 and 3.7. Beneficial use is the reasonable and appropriate use of water for a purpose consistent with Idaho state laws and the best interest of the people. Those criteria, from the State Water Quality Standards (1990) are binding on all waters in Idaho, not just on designated Stream Segments of Concern. Presently, 366 miles of stream have identified beneficial uses. All other streams in the planning area are under the general provisions of the water quality standards.

There are 176 miles of stream currently designated as Stream Segments of Concern within, or next to, the planning area. These stream miles include all ownership patterns, not just those on public land. The Snake River forms the southern boundary of the planning area and thus lies next to the area. The 24-mile stretch of river that extends from the uppermost slack water of Bliss Reservoir upstream to the uppermost slack water of Upper Salmon Falls Reservoir, includes three designated Stream Segments of Concern. Of the 176 stream miles, no stream miles fully support the identified beneficial uses. Sixty-two stream miles support uses, but those uses are threatened by land use activities; 68 stream miles partially support uses; 46 stream miles do not currently support the identified beneficial uses.

Surface waters in the planning area, other than designated Stream Segments of Concern, whose beneficial uses have been evaluated by the state, are shown in Table 3.8. Some of those waters are completely separate from public land administered by BLM. Those waters, many of which lie along the main Snake River, are included in the table to present a complete list of the water quality evaluations accomplished to date.

Only 190 stream miles not designated as Stream Segments of Concern have been evaluated to determine the beneficial uses. Of the 190 miles evaluated, no stream miles fully support the beneficial uses; 147 stream miles support uses, but those uses are threatened by land use activities; 22 stream miles partially support uses; 21 stream miles do not currently support the identified beneficial uses.

The availability of subsurface water, known as groundwater, varies widely within the planning area. Areas having Tertiary volcanic rocks and pre-Tertiary sedimentary and granitic rocks generally have limited groundwater resources. Areas having alluvium or fluvioglacial sediments (outwash from melting glaciers) or Snake River basalts are likely to have a groundwater resource (Sun Valley EIS, 1981, p. 3-8). Two principal groundwater-bearing geologic structures, known as aquifers, are found in the planning area. They are shown on Map 3.3.

There is no evidence that groundwater contamination has occurred on, or from, any public land administered by BLM within the planning area.

Except for public land lying on the Snake River Plain, most of the land in the planning area administered by BLM has very limited groundwater resources.

All surface water and groundwater resources and uses in the planning area are being examined by a lengthy legal process known as the Snake River Basin General Water Adjudication. That adjudication has resulted from a 1983 decision of the Idaho Supreme Court in Case #13794, entitled *Idaho Power Co. v. the State of Idaho, et.al.* 104 Idaho 575 (Water Right Adjudication, 1985). On November 19, 1987, the Fifth Judicial District Court issued a Commencement Order, which began the general adjudication of water rights from the Snake River Basin water system in Idaho. The general adjudication is a court case that will result in a decree deciding all rights to water from the water system. Idaho Code, Section 42-1409 requires all holders of water rights to file a Notice of Claim to a water right with the Idaho Department of Water Resources for each water right (IDWR, 1988).



The BLM has filed two types of claims for water rights on public land in the adjudication: water rights acquired under state law and water rights reserved under federal law (BLM, 1988). Within the planning area, existing developed water projects such as wells, pipelines, water catchments, reservoirs, ponds, and certain springs on public land were filed on using the existing assigned priority date (usually the date when the project was constructed) under the state law requiring an application-permit-license to make

beneficial use of the state's waters. Instream claims for stockwater and wildlife were filed on as Federal Reserved Water Rights using either the date of the *Taylor Grazing Act* (June 28, 1934) or earlier.

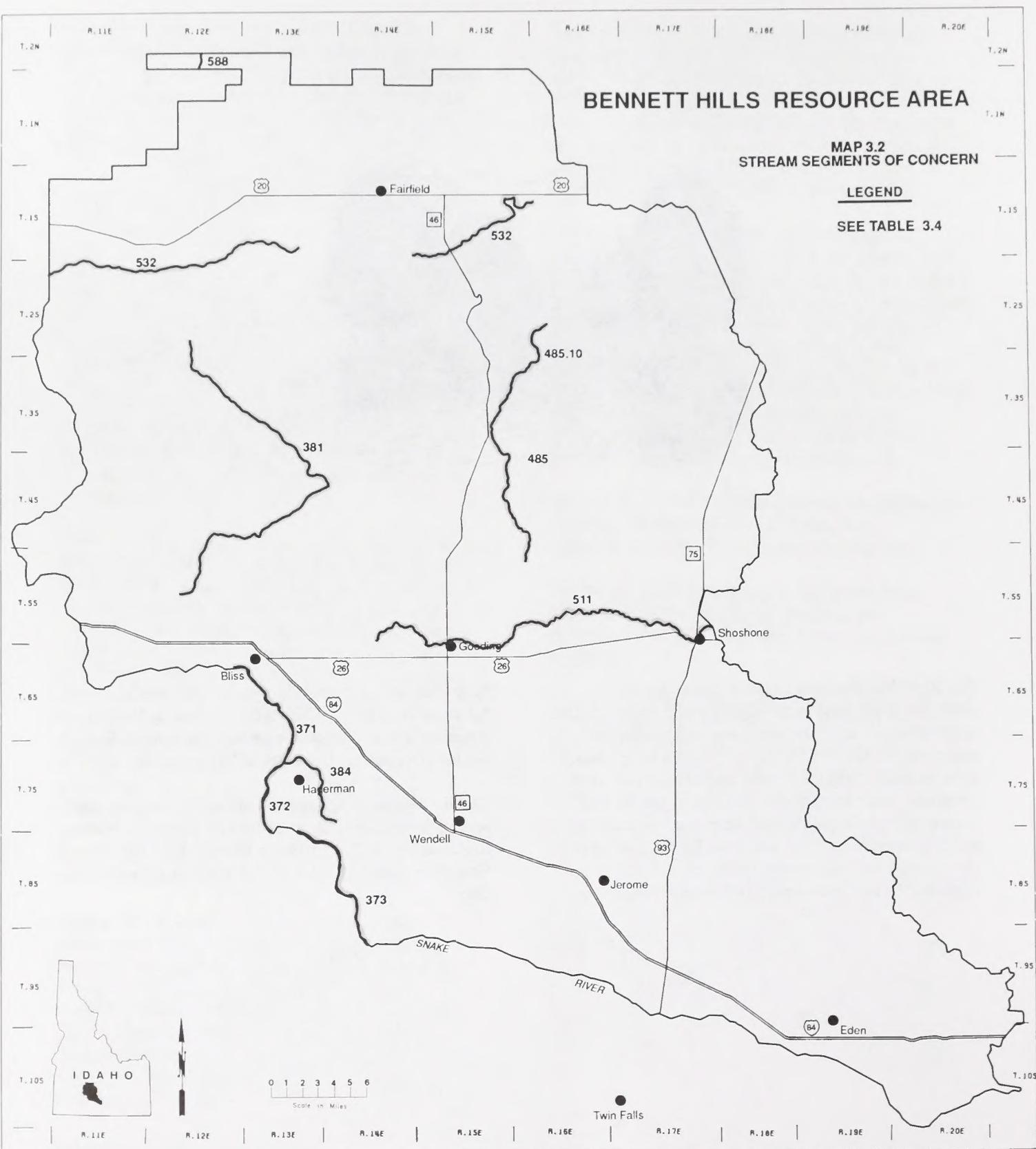
Certain developed springs and all known undeveloped springs were also filed on as Federal Reserved Water Rights using the Public Water Reserve No. 107 Executive Order of April 17, 1926 as the priority date.

## BENNETT HILLS RESOURCE AREA

**MAP 3.2**  
STREAM SEGMENTS OF CONCERN

LEGEND

SEE TABLE 3.4



## BENNETT HILLS RESOURCE AREA

MAP 3.3  
MAJOR AQUIFERS OF THE BENNETT HILLS  
RESOURCE AREA

### LEGEND

-  CAMAS PRAIRIE AQUIFER
-  SNAKE RIVER PLAIN AQUIFER
-  GROUNDWATER - POOR FOOTHILLS

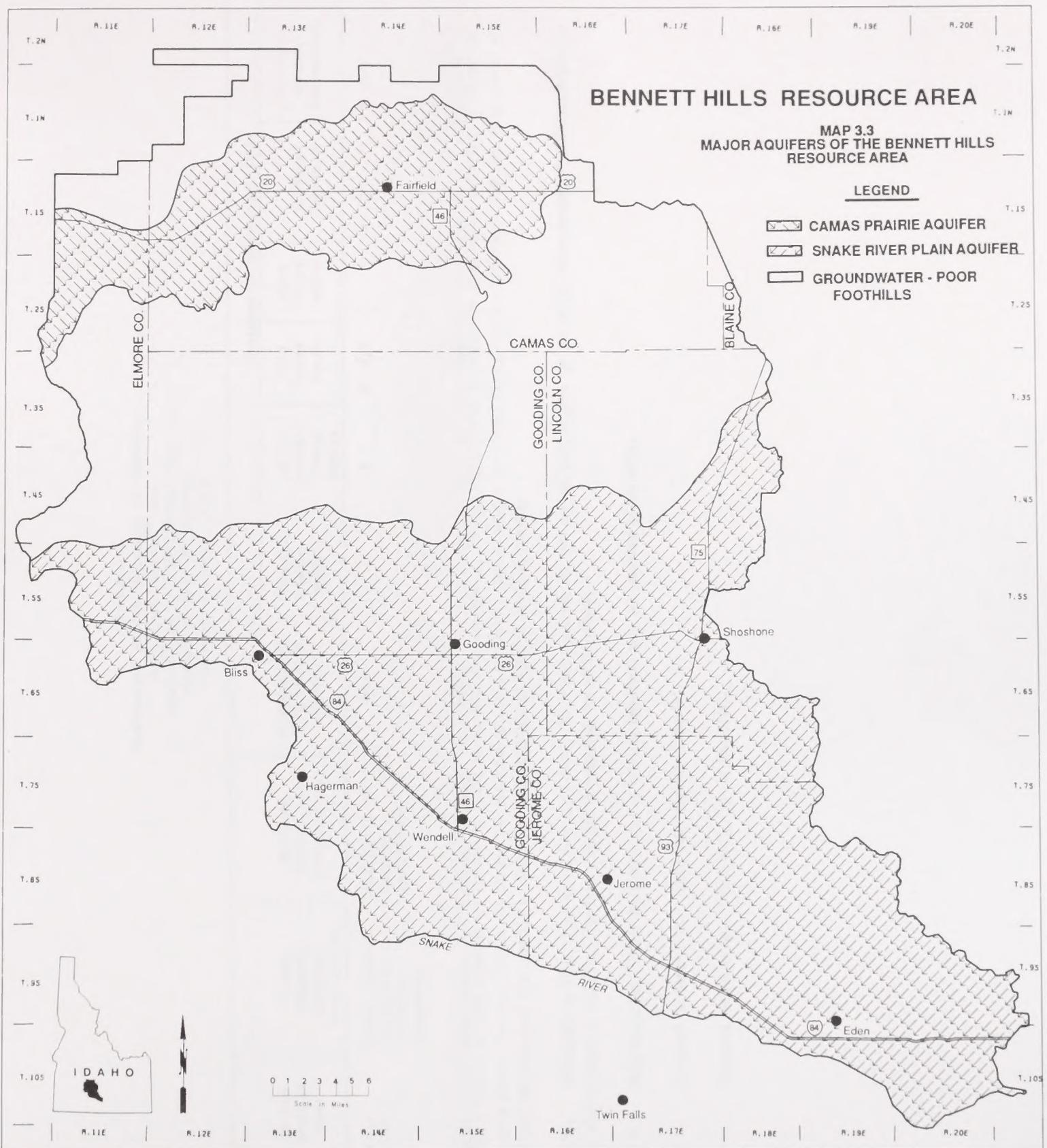




TABLE 3.5  
Designated Stream Segments of Concern,  
Beneficial Uses,<sup>1/</sup> and  
Status<sup>2/</sup> of the Beneficial Use  
Bureau of Land Management  
Shoshone District, Idaho

Stream Segment No.	Stream Segment Name	Stream Segment Boundary Description	Primary Reason for Designation	BLM Grazing Allotments Affected	Designated Beneficial Uses						
					Domestic Water Supply	Agricultural Water Supply	Cold Water Biota	Warm Water Biota	Salmonid Spawning	Primary Contact Recreation	Secondary Contact Recreation
371.00	Snake River	Lower Salmon Falls Dam to Bliss Reservoir	Agriculture/Grazing Activities	None	#	# S/T	# S/T	# S/T	# S/T	# S/T	# S/T
372.00	Lower Salmon Falls Reservoir	High Water Line	Agriculture/Grazing Activities	None	# X	# S/T	# N	# S/T	# S/T	# S/T	# S/T
373.00	Upper Salmon Falls Reservoir	High Water Line	Agriculture/Grazing Activities	None	# X	# S/T	# N	# S/T	# S/T	# S/T	# S/T
381.00	Clover Creek	Headwaters to Pioneer Reservoir	Agriculture/Grazing Activities	Clover Creek, Davis Mtn., Dempsey, Indian	#	#	#	#	#	#	#
384.00	Billingsley Creek	Headwaters to Snake River	Agriculture/Grazing Activities	None	# S/T	# X	# P	# P	# P	# P	# S/T
511.00	Little Wood River	Richfield (Town) to Big Wood River	Agriculture/Grazing Activities	Lava Pot, Quail, River, Shortline, Tunupa	# X	# S/T	* P	# P	# P	# S/T	# S/T
532.00	Camas Creek	Headwaters to Bridge at T.1S., R.16E., Section 18	Agriculture/Grazing Activities	Baseline, Cow Creek, Deer Creek (NC), Ear Creek, East Spring Cr., Elk Creek, Fairfield, Hot Springs, McHan Cr., Philips Creek, Powell Creek, Rough Creek, Sheep Point, Soldier, Springdale, Three Mile, West Spr.Cr., Willow Creek	#	#	#	#	#	#	#
588.00	Lime Creek	Headwaters to Anderson Ranch Reservoir	Agriculture/Grazing Activities	Ear Creek, Roanhide, Soldier	Beneficial uses and status of the beneficial use are not shown in Idaho Water Quality, 1988, or in Water Quality Standards, 1990.						

Sources: Zaroban, 1993, pages 46-53 for Designated Stream Segments of Concern, their number, name, boundary and reason for designation.

Idaho Water Quality, 1988, pages A-23 to A-27 and B-23 to B-33 for identified beneficial uses and their status.

State Water Quality Standards, 1990, pages IDAPA 16.01.2150, 01.u., 01.ff., 01.pp. for designated beneficial uses.

1/ **Beneficial use:** The reasonable and appropriate use of water for a purpose consistent with Idaho state laws and the best interest of the people. Uses include, but are not limited to, domestic water supplies, agricultural water supplies, wildlife habitat, and recreation on or in the water. The seven beneficial uses recognized by the State are shown in the table headings.

2/ **Status of use:** A rating which describes the degree to which water is supporting the identified beneficial use.

N = **Not supported:** Waters having a beneficial use that cannot be sustained by the water. For any one pollutant, Environmental Protection Agency criteria or state standards are exceeded by >25%, or criteria or standards are exceeded by 11-15% and the mean of measurements is greater than the criteria or standards. Generally, pollutants are found at levels of concern.

P = **Partially supported:** Waters having some uncertainty about beneficial use support. For any one pollutant that has been "monitored", Environmental Protection Agency criteria or state standards are exceeded by 11-25% and the mean of measurements is less than the criteria; or criteria or standards are exceeded by < 10% and the mean is greater than the criteria. On the basis of evaluated data (not monitored), nonpoint sources are present but may not affect the beneficial use, or no sources are present but there have been complaints. Generally, pollutants are not found at levels of concern.

S/T = **Potentially at Risk:** Those waters that fully support their designated use but that may not fully support the use in the future because of anticipated sources, or adverse trends of pollution. The beneficial use is supported, but is threatened.

X = **Fully supported:** Waters where designated or existing beneficial uses are sustained by the water.

\* = **Protected for General Use.** (State Water Quality Standards).

† = **Protected for Future Use.** (State Water Quality Standards).



**TABLE 3.6**  
**Beneficial Uses of Water for**  
**Domestic, Agriculture, and Recreation**  
**Recognized by the State of Idaho**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Domestic Water Supply	Agricultural Water Supply	Primary Contact Recreation	Secondary Contact Recreation
<p>Waters which are suitable or intended to be made suitable for drinking water supplies.</p> <p>Waters designated for domestic water supplies are to exhibit certain characteristic maximum allowable concentrations for 20 substances shown at: State Water Quality Standards, IDAPA 16.01.2250.06.</p>	<p>Waters which are suitable or intended to be made suitable for irrigation of crops or as drinking water for livestock.</p> <p>No specific water quality criteria are given for agricultural waters.</p>	<p>Surface waters which are suitable or intended to be made suitable for prolonged and intimate contact by humans or for recreational activities when the ingestion of small quantities of water is likely to occur. Such waters include, but are not restricted to, those used for swimming, water skiing, or skin diving.</p> <p>Between 5/1 and 9/30 of each year, waters designated for primary contact recreation are not to contain fecal coliform bacteria significant to the public health in concentrations exceeding:</p> <ul style="list-style-type: none"> <li>a. 500/100 ml. at any time; and</li> <li>b. 200/100 ml. in more than 10% of the total samples taken over a 30 day period; and</li> <li>c. A geometric mean of 50/100 ml. based on a minimum of 5 samples taken over a 30 day period.</li> </ul>	<p>Surface waters which are suitable or intended to be made suitable for recreational uses on or about the water and which are not included in the primary contact category. These waters may be used for fishing, boating, wading, and other activities where ingestion of raw water is not probable.</p> <p>Waters designated for secondary contact recreation are not to contain fecal coliform bacteria significant to the public health in concentrations exceeding:</p> <ul style="list-style-type: none"> <li>a. 800/100 ml. at any time; and</li> <li>b. 400/100 ml. in more than 10% of the total samples taken over a 30 day period; and</li> <li>c. A geometric mean of 200/100 ml. based on a minimum of 5 samples taken over a 30 day period.</li> </ul>

Source: State Water Quality Standards, 1990.

TABLE 3.7  
 Beneficial Uses of Water for  
 Wildlife Habitat Recognized by  
 the State of Idaho  
 Bureau of Land Management  
 Shoshone District, Idaho

Cold Water Biota	Warm Water Biota	Salmonid Spawning
<p>Waters which are suitable or intended to be made suitable for protection and maintenance of viable communities of aquatic organisms and populations of significant aquatic species which have optimal growing temperatures below 18°C.</p> <p>Waters designated for cold water biota are to exhibit the following characteristics:</p> <ul style="list-style-type: none"> <li>a. Dissolved Oxygen Concentrations exceeding 6 mg/l at all times;</li> <li>b. Hydrogen Ion Concentration (pH) values within the range of 6.5 to 9.0;</li> <li>c. Water temperatures of 22°C or less with a maximum daily average of no greater than 19°C;</li> <li>d. The total concentration of dissolved gas not exceeding 110% of saturation at atmospheric pressure at the point of sample collection;</li> <li>e. Concentrations of total ammonia not to exceed: (see State Water Quality Standards, IDAPA 16.01.2250,04.e.)</li> </ul>	<p>Waters which are suitable or intended to be made suitable for protection and maintenance of viable communities of aquatic organisms and populations of significant aquatic species which have optimal growing temperatures above 18°C.</p> <p>Waters designated for warm water biota are to exhibit the following characteristics:</p> <ul style="list-style-type: none"> <li>a. Dissolved Oxygen Concentrations exceeding 5 mg/l at all times;</li> <li>b. Hydrogen Ion Concentration (pH) values within the range of 6.5 to 9.0;</li> <li>c. Water temperatures of 33°C or less with a maximum daily average no greater than 9°C;</li> <li>d. Total concentration of dissolved gas not exceeding 110% of saturation at atmospheric pressure at the point of sample collection;</li> <li>e. Concentrations of total ammonia not to exceed: (see State Water Quality Standards IDAPA 16.01.2250,03.e.).</li> </ul>	<p>Waters which provide or could provide a habitat for active self-propagating populations of salmonid fishes.</p> <p>Waters designated for salmonid spawning are to exhibit the following characteristics during the spawning period and incubation for the particular species inhabiting those waters:</p> <ul style="list-style-type: none"> <li>a. Dissolved Oxygen Concentrations exceeding 6 mg/l or 90% of saturation, whichever is greater;</li> <li>b. Hydrogen Ion Concentration (pH) values within the range of 6.5 to 9.0;</li> <li>c. Water temperatures of 13°C or less with a maximum daily average no greater than 9°C;</li> <li>d. Total concentration of dissolved gas not exceeding 110% of saturation at atmospheric pressure at the point of sample collection;</li> <li>e. Concentrations of total ammonia not to exceed: (see State Water Quality Standards IDAPA 16.01.2250,05.e.).</li> </ul>

Source: State Water Quality Standards, 1990.

TABLE 3.8  
Designated Beneficial Uses<sup>1</sup> and Status<sup>2</sup> of the Beneficial Use  
for Certain Waters in the Planning Area that are  
NOT Stream Segments of Concern  
Bureau of Land Management  
Shoshone District, Idaho

Stream Segment No.	Stream Segment Name	Stream Segment Boundary Description	BLW Grazing Allotments Affected	Designated Beneficial Uses						
				Domestic Water Supply	Agricultural Water Supply	Cold Water Biota	Warm Water Biota	Salmonid Spawning	Primary Contact Recreation	Secondary Contact Recreation
369.00	Snake River	Bliss Bridge to King Hill	The Pasture		I X	I S/T		I P	I P	I S/T
370.00	Bliss Reservoir	High Water Line	101	X	I	I S/T		I R	I S/T	I S/T
374.00	Snake River	Crystal Springs to Upper Salmon Falls Reservoir	Briggs Creek, Sand Springs		I S/T	I S/T		I S/T	I S/T	I S/T
375.00	Shoshone Falls Reservoir	High Water Line	Canyon		I S/T	I S/T		I R	I S/T	I S/T
376.00	Twin Falls Reservoir	High Water Line	Canyon, Vineyard		I S/T	I S/T		I S/T	I S/T	I S/T
377.00	Snake River	Murtaugh to Twin Falls Reservoir	Canyon, Hansen, Vinyard		I	I		I	I	I
378.00	Snake River	Nilner Dam to Murtaugh	Nilner Dam		I S/T	I S/T		I S/T	I S/T	I S/T
379.00	Clover Creek	Pioneer Reservoir to Snake River	Dempsey, Hog Creek, West Pioneer		I X	I P		I R	I R	I R
380.00	Pioneer Reservoir	High Water Line	Pioneer, West Pioneer		I	I		I	I	I
383.00	Lower White Springs	Headwaters to Snake River	None			S/T				
385.00	Riley Creek	Readwaters to Snake River	None	I S/T	I X	I S/T		I S/T	I P	I S/T
386.00	Thousand Springs Creek	Headwaters to Snake River	None		S/T	S/T		S/T	P	S/T
387.00	Sands Springs Creek	Headwaters to Snake River	None			S/T				
388.00	Box Canyon Creek	Readwaters to Snake River	Sand Springs			S/T		S/T		S/T
389.00	Blind Canyon Creek	Headwaters to Snake River	None			S/T		P	S/T	S/T
391.00	Briggs Spring Creek	Readwaters to Snake River	Briggs Creek		S/T	S/T		S/T	S/T	S/T
395.00	Clear Springs	Headwaters to Snake River	None		S/T	S/T		P	R	S/T
396.00	Niagara Springs Creek	Readwaters to Snake River	None			S/T		S/T		S/T
398.00	Crystal Springs	Headwaters to Snake River	None		S/T	S/T		P	S/T	S/T
407.00	Vineyard Lake	Readwaters to Snake River	Vineyard	Beneficial uses and status of the beneficial use are not shown in Idaho Water Quality, 19BB, or in Water Quality Standards, 1990.						
475.00	Big Wood River (or, Malad River)	Interstate B4 Bridge to Snake River	Malad?		I	I		I	I	I
476.00	Big Wood River (or, Malad River)	Little Wood River to Interstate B4 Bridge	Black Canyon, Tuttle		I X	I S/T		I S/T	I P	I S/T
477.00	Big Wood River	Highway 75 to Little Wood River	Big Wood, Black Canyon, Rock Plat		I X	I S/T		I P	I P	I S/T
478.00	Big Wood River	Richfield Diversion to Highway 75	North Shoshone		I X	I S/T		I P	I P	I S/T
479.00	Big Wood River	Magic Dam to Richfield Diversion	Spillway		I	I		I	I	I
480.00	Magic Reservoir	High Water Line	Macon Plat, Myrtle Point, Spillway		I	I S/T		I	I S/T	I S/T
531.00	Camas Creek	Macon Bridge to Magic Reservoir	Macon Plat		I	I S/T		I S/T	I S/T	I S/T
534.00	Willow Creek	Headwaters to Camas Creek	Meadow, Willow Creek			S/T		S/T	S/T	S/T
537.00	Soldier Creek	Baseline to Camas Creek	Philips Creek			S/T		P	P	S/T
539.00	Norman Reservoir	High Water Line	Black Canyon, Davis Mountain			S/T		R	S/T	S/T

Sources: Idaho Water Quality, 19BB, pages A-23 to A-22 and B-23 to B-33 for identified beneficial uses and their status.

State Water Quality Standards, 1990, pages IDAPA 16.01.2150, 01.u., 01.ff., 01.po. for designated beneficial uses.

<sup>1</sup>/ **Beneficial use:** The reasonable and appropriate use of water for a purpose consistent with Idaho state laws and the best interest of the people. Uses include, but are not limited to, domestic water supplies, agricultural water supplies, wildlife habitat, and recreation on or in the water. The seven beneficial uses recognized by the State are shown in the table headings.

<sup>2</sup>/ **Status of use:** A rating which describes the degree to which water is supporting the identified beneficial use.

N = **Not supported:** Waters having a beneficial use that cannot be sustained by the water. For any one pollutant, Environmental Protection Agency criteria or state standards are exceeded by >25%, or criteria or standards are exceeded by 11-15% and the mean of measurements is greater than the criteria or standards. Generally, pollutants are found at levels of concern.

P = **Partially supported:** Waters having some uncertainty about beneficial use support. For any one pollutant that has been "monitored", Environmental Protection Agency criteria or state standards are exceeded by 11-25% and the mean of measurements is less than the criteria; or criteria or standards are exceeded by ≤ 10% and the mean is greater than the criteria. On the basis of evaluated data (not monitored), nonpoint sources are present but may not affect the beneficial use, or no sources are present but there have been complaints. Generally, pollutants are not found at levels of concern.

S/T = **Potentially at Risk:** Those waters that fully support their designated use but that may not fully support the use in the future because of anticipated sources, or adverse trends of pollution. The beneficial use is supported, but is threatened.

X = **Fully supported:** Waters where designated or existing beneficial uses are sustained by the water.

I = **Protected for General Use.** (State Water Quality Standards).



## Topography and Geology

The Bennett Hills Resource Area is located in south central Idaho, between the Sawtooth Mountains on the north and Snake River on the south. Elevations range from 2,700 feet near King Hill on the Snake River to 7,200 feet in the Soldier Mountains north of Fairfield. The dominant topographic features in the resource area are the east-west-trending Bennett Hills that rise some 1,600 feet above the surrounding terrain. On the north the Bennett Hills are bounded by the Camas Prairie. On the south the Bennett Hills are bounded by the Snake River Plain.

The planning area contains several geological features of interest. Located three miles northeast of Twin Falls is the Dry Cataracts geological formation. This area contains features that dramatically illustrate volcanic processes that formed the Snake River Plain, and the erosion processes of catastrophic events such as the Bonneville Flood. The portion of the Big Wood River, determined eligible for Wild and Scenic Rivers status, showcases the wild and beautiful rock formations resulting from the water erosion process. South of the town of Bliss along the Snake River, recent geologic slide activity graphically and dramatically demonstrates the continuing geologic evolution of the area and the river in particular.

## Vegetation

Twelve major vegetation management zones exist within the boundaries of this plan as shown on Map 2.1. Table 3.9 shows the major vegetation zones and acres. The principal ecological sites and the principal soil series are available upon request at the Shoshone District Office.

The entire area lies within the Intermountain Shrub Region (Stoddart *et al.* 1975). In this region many typical plant communities are composed of a sagebrush overstory with an understory of bunchgrass and forbs. The species of sagebrush is an important indicator of site-specific conditions. Because individual sagebrush species are important as indicators of moisture conditions, depth of soil, soil drainages, etc., ten of the twelve major vegetation zones in the area are named by the principal kind of sagebrush existing in them.

The lava flow zone is the area in which lava flows, devoid of substantial vegetation or soil, occupy the land surface. The wet meadow/riparian zone is confined to moist environments.

The vegetation in many areas is in a low seral stage due to wild fire and/or past use. Annuals have largely replaced the perennial understory; thus, the area is highly susceptible to wild fire. Some areas can no longer produce perennial understory without rehabilitation treatments.

All of the zones comprise a mosaic of ecological sites, each with their characteristic vegetation, interspersed over the landscape. Thus, low sage may exist in shallow rocky soils within the broad Wyoming Big Sagebrush Zone, or Wyoming big sagebrush may grow on especially dry sites within the Mountain Big Sagebrush Zone.

Riparian areas include all terrestrial vegetation that is next to lakes, reservoirs, canals, streams, ponds, and springs in the area. This vegetation grows in unnamed, poorly drained mineral and/or organic soils. Most riparian zones exist in the Lower Bennett Hills, Upper Bennett Hills, and Camas Prairie Geographic Reference Areas (see Chapter 1 for description and location) at the bottom of canyons containing perennial or intermittent streams. Eight major reservoirs or lakes-Bray, Magic, Mormon, Pioneer, Summit, Thorn Creek, Walker, and Wilson-are the next largest occurrence.

TABLE 3.9  
Major Vegetation Management Zones  
Bureau of Land Management  
Shoshone District, Idaho

Vegetation Zone	Area	Percent
Wyoming big sagebrush over mixed grasses	133,191	20
8-12" precipitation (Zone 1)		
Basin big sagebrush over Bluebunch wheatgrass	74,151	11
8-12" precipitation (Zone 2)		
Basin big sagebrush over Indian ricegrass	24,220	4
8-12" precipitation (Zone 3)		
Idaho three-tip over Bluebunch wheatgrass	21,566	3
11-13" precipitation (Zone 4)		
Mountain big sagebrush over mixed grasses	63,877	10
12-16" precipitation (Zone 5)		
Basin big sagebrush over Bluebunch wheatgrass	1,077	0
12-16" precipitation (Zone 6)		
Mountain big sagebrush over Idaho fescue	87,289	13
12-16" precipitation (Zone 7)		
Low sagebrush over Bluebunch wheatgrass	108,799	17
8-16" precipitation (Zone 8)		
Alkali sagebrush over Idaho fescue	38,100	6
12-16" precipitation (Zone 9)		
Wyoming big sagebrush over Bluebunch wheatgrass	22,923	4
8-12" precipitation (Zone 10)		
Lava (Zone 11)	54,375	8
Wet meadow/riparian (Zone 12)	1,673	0
Unknown	18,545	3
	649,786	100

### Noxious Plants

Noxious weeds exist throughout the area. They are especially heavy on ranges without natural vegetation, along roadsides, in borrow pits, or along livestock trails. Locally, heavy infestations may be found along irrigation canal banks. The most important noxious plants are listed in Table 3.10.

TABLE 3.10  
Principal Noxious Plants Found  
on Public Lands in the Area  
Bureau of Land Management  
Shoshone District, Idaho

Leafy spurge <i>Euphorbia esula</i>
Rush skeletonweed <i>Chondrilla juncea</i>
Dyers woad <i>Isatis tinctoria</i>
Spotted knapweed <i>Centaurea maculosa</i>
Musk thistle <i>Carduus nutans</i>
Scotch thistle <i>Onopordum acanthium</i>
Diffuse knapweed <i>Centaurea diffusa</i>
Russian knapweed <i>Centaurea repens</i>
Water hemlock <i>Cicuta maculata</i>
Canada thistle <i>Cirsium arvense</i>
Hoary cress (white top) <i>Cardaria draba</i>
Tansy ragwort <i>Senecio jacobaea</i>
Yellow starthistle <i>Centaurea solstitialis</i>
Dalmatian toadflax <i>Linaria dalmatica</i>
Yellow toadflax <i>Linaria vulgaris</i>
Mediterranean sage <i>Salvia aethiopis</i>
Purple Loosestrife <i>Lythrum salicaria</i>

### Poisonous Plants

Poisonous plants have not been a serious problem in the area, but occasional livestock losses have been reported. The plants are generally widely scattered and are not highly palatable. Most death losses have occurred either in severely over-grazed areas or in the spring when insufficient palatable non-poisonous forage is available. The principal poisonous species are listed and briefly described in Table 3.11.

## Vegetation Production

As used here, the term vegetation production means the yearly growth of vegetation including all grasses, forbs, and shrubs. Vegetation production is not a static process. It is dynamic, varying annually with temperature and precipitation. There is also natural variation depending upon such things as soil depth, stoniness, parent material, slope, aspect, and other

factors. Production is, therefore, best expressed as a range of values rather than a single value. Data showing the range of variation in production is shown in Table 3.12.

Ranges in production represent a composite of ecological sites in the zone as found in BLM/SCS Ecological Site Guides. The average production is for comparison purposes only.

TABLE 3.11  
Poisonous Plants Found in the Planning Area  
Bureau of Land Management  
Shoshone District, Idaho

Plant Species	General Occurrence in the Area	Effects On Livestock
Death Camas	Dry areas.	Eating in early spring by cattle or sheep causes nausea, convulsions, coma.
Greasewood	Saline-alkaline bottoms, not common.	Eating in fall by sheep when other forage is dry causes dullness, progressive weakening, coma.
Halogeton	Along sheep trails, near springs and streams, where soil disturbance has occurred. Found mainly north of Bliss, Idaho in White Arrow Pond and Halogeton Spring area.	Seldom eaten in poisonous quantity when other forage is available. Causes dullness, progressive weakening, coma, violent struggle for air in both cattle and sheep.
Horsebrush	Scattered throughout, mainly concentrated north of Shoshone, Idaho.	Eating in early spring by sheep causes depression, swelling of head, neck, ears, peeling of skin.
Larkspur	Scattered throughout, primarily at higher elevations. <u>NOTE:</u> This plant probably causes more livestock poisoning than all others combined.	Eating in late spring or early summer by cattle causes nervousness, nausea, bloating, respiratory paralysis.
Lupine	Widely occurring.	Eating of pods and seeds in fall by sheep causes depression, loss of muscle control, convulsions, coma.
Water Hemlock	Primarily along irrigation canals between Gooding and Bliss, Idaho; North Gooding Allotment.	Eating by cattle or sheep at any time causes rapid breathing, convulsions, coma, and death.

TABLE 3.12  
 Vegetation Production of  
 Major Vegetation Management Zones  
 Bureau of Land Management  
 Shoshone District, Idaho

Vegetation Management Zones	Total Average Annual Production (Air Dry Pounds/Acre)		
	Favorable Years	Median Years	Unfavorable Years
ZONE 1-Wyoming big sagebrush over mixed grasses, 8-12" precipitation	1,100	750	400
ZONE 2-Basin big sagebrush over Bluebunch wheatgrass, 8-12" precipitation	1,000	750	600
ZONE 3-Basin big sagebrush over Indian ricegrass, 8-12" precipitation	950	650	450
ZONE 4-Idaho three-tip sagebrush over Bluebunch wheatgrass, 11-13" precipitation	800	575	475
ZONE 5-Mountain big sagebrush over mixed grasses, 12-16" precipitation	1,100	900	750
ZONE 6-Basin big sagebrush over Bluebunch wheatgrass, 12-16" precipitation	900	750	650
ZONE 7-Mountain big sagebrush over Idaho fescue, 12-16" precipitation	1,000	750	600
ZONE 8-Low sagebrush over Bluebunch wheatgrass, 8-16" precipitation	450	300	250
ZONE 9-Alkali sagebrush over Idaho fescue, 12-16" precipitation	800	600	300
ZONE 10-Wyoming big sagebrush over Bluebunch wheatgrass, 8-12" precipitation	600	450	300
ZONE 11-Lava	800*	600*	400*
ZONE 12-Wet meadow/Riparian	5,000*	3,000*	1,500*

\* Shoshone Grazing Environmental Impact Statement, Table 3-10

## Ecological Sites and Status

Ecological status is the current productivity and composition of the vegetation compared with the vegetation's natural potential productive capability.

Described another way, ecological status is the present state of an ecological site in relation to the potential natural (climax) plant community for that site. It is an expression of the relative degree to which the kinds, proportions, and amounts of plants in a plant community resemble that of the climax plant community for the site. Ecological status is a comparison of the present plant community with that of the climax community. Air-dry weight is the unit of measure used to compare the vegetation composition and production.

The basic categories, potential natural, late seral, mid seral, and early seral that include any highly disturbed sites, are used to describe ecological status in the area. The potential natural category produces greater than 75 percent of the site's climax potential plant composition and production. The late seral category produces 51 to 75 percent of the plant composition and production found in the potential natural plant community. The mid seral category produces 26 to 50 percent while the early seral category has less than 25 percent. The highly disturbed category describes an existing vegetation that is at a very early stage of ecological succession. It represents an extreme departure from the potential natural plant community and results from one or more disturbing effects such as prolonged livestock overuse, repeated burning by wild fire or unsuccessful range rehabilitation projects. The highly disturbed category includes weed patches, solid stands of cheatgrass, and other places where even native indicator shrubs are missing (Table 3.13).

One additional category, seeding, describes a situation where man has so altered the native vegetation that a condition class was not applied. Seedings are defined as having at least 15 percent of the total dry matter production consisting of the seeded species.

The predominant vegetation within the major drainages/riparian vegetation zone includes willows, Douglas hawthorn, cottonwood, quaking aspen,

sedges, rushes, grasses, and many species of forbs, mosses, and algae. The Soil Conservation Service has not prepared ecological site descriptions for riparian areas; therefore, it is impossible to assign a seral stage to riparian areas in the planning area. To date, a total of 57 miles of riparian areas have been visited. Based on the existing stream inventory, 25 percent of the streams are presently in satisfactory condition, and 75 percent are in unsatisfactory condition.

TABLE 3.13  
Summary of Existing Ecological  
Status For Public Land  
Within the Area  
Bureau of Land Management  
Shoshone District, Idaho

Vegetation Status Category	Acres	% of Total Acres
Seeding	180,227	28
Highly Disturbed	29,404	5
Early Seral	198,678	31
Mid Seral	113,872	18
Late Seral	26,796	4
Lava	15,398	2
Unknown Vegetation Zone	18,545	3
Riparian	1,673	0
Water	173	0
Unclassified*	65,220	9
All Categories	649,786	100.0

\*No status category assigned in the Monument RMP/EIS, Shoshone Grazing EIS, or Sun Valley EIS.

## Apparent Vegetation Trend

The trend of ecological status refers to a movement toward or away from the potential natural vegetation composition for a specific ecological site. Trend is usually described by three categories: upward, downward, or static. Upward trend means the vegetation composition is improving, compared with potential. Downward trend means the vegetation composition is moving away from the potential, and static trend means the vegetation composition has not changed or the change is not distinguishable.

## Apparent Vegetation Trend

The apparent trend in the Bennett Hills Resource Area presently has 2 percent of the public land moving in an upward trend (toward the potential natural community) while 11 percent is in a downward trend. A downward trend means the potential natural grass and forb species are becoming smaller and less vigorous with little or no reproductive success, while unpalatable plant species show evidence of reproductive success and good vigor. Also, plant residues may not be collecting in place to prevent water erosion on sloping land or wind erosion on level land.

Nearly 58 percent of the public land is in the static category. This means the range is neither improving nor deteriorating compared to the potential. This situation exists in all condition classes. For example, a weed patch (highly disturbed condition) may be stable if it is heavily grazed every year and it burned periodically. Or, an area may be in late seral condition and remain so by moderate grazing each year at a time when most of the plants are dormant. Rock outcrops, recent lava flows, and other areas unsuited for livestock grazing such as stony areas and steep slopes, are in a static trend.

The remaining public land (29 percent) is unclassified due to vegetation manipulation (seedings) and no classification criteria for wet meadow/riparian and open water areas.

## Visual Resources

Visual resources are the combinations of landform, water, color, cultural, vegetative, and other features that characterize landscapes. An inventory of visual resources and the development of Visual Resource Management classes has been completed for the planning area (Map 3.4 and Table 3.14). Visual Resource Management classes are based on the relative visual ratings of inventoried land. An area's inherent scenic quality, visual sensitivity as determined from viewer volume and attitudes, and viewing distance zones determines the Visual Resource Management class. The minimum management objectives range from Class I where any contrast created within the characteristic landscape must not attract attention, to Class IV where contrasts

may attract attention and be a dominant feature in the landscape.

Wilderness study areas are managed as Class II areas. Scenic Areas of Critical Environmental Concern, Congressionally designated wilderness areas, and "wild" rivers designated under the *Wild and Scenic Rivers Act* are managed as Class I areas.

### VISUAL RESOURCE MANAGEMENT CLASS OBJECTIVES

Class I - Natural ecological changes and very limited management activity are allowed. Any contrast created within the characteristic landscape must not attract attention. This classification is applied to Visual Areas of Critical Environmental Concern, wilderness areas, wild and scenic rivers, and other similar situations.

Class II - Changes in any of the basic elements (form, line, color, texture) caused by a management activity should not be evident in the landscape. A contrast may be seen but should not attract attention.

Class III - Contrasts to the basic elements caused by a management activity may be evident and begin to attract attention in the landscape. The changes, however, should remain subordinate in the existing landscape.

Class IV - Contrasts may attract attention and be a dominant feature in the landscape in terms of scale. However, the change should repeat the basic element of the landscape.

TABLE 3.14  
Visual Resource Management Classification  
Bureau of Land Management  
Shoshone District, Idaho

VRM Setting Class	Acres	Percent
I	241	0
II	215,783	33
III	360,608	56
IV	73,154	11

Source: Shoshone District GIS

BENNETT HILLS RESOURCE AREA

MAP 3.4  
VISUAL RESOURCE MANAGEMENT CLASSIFICATION

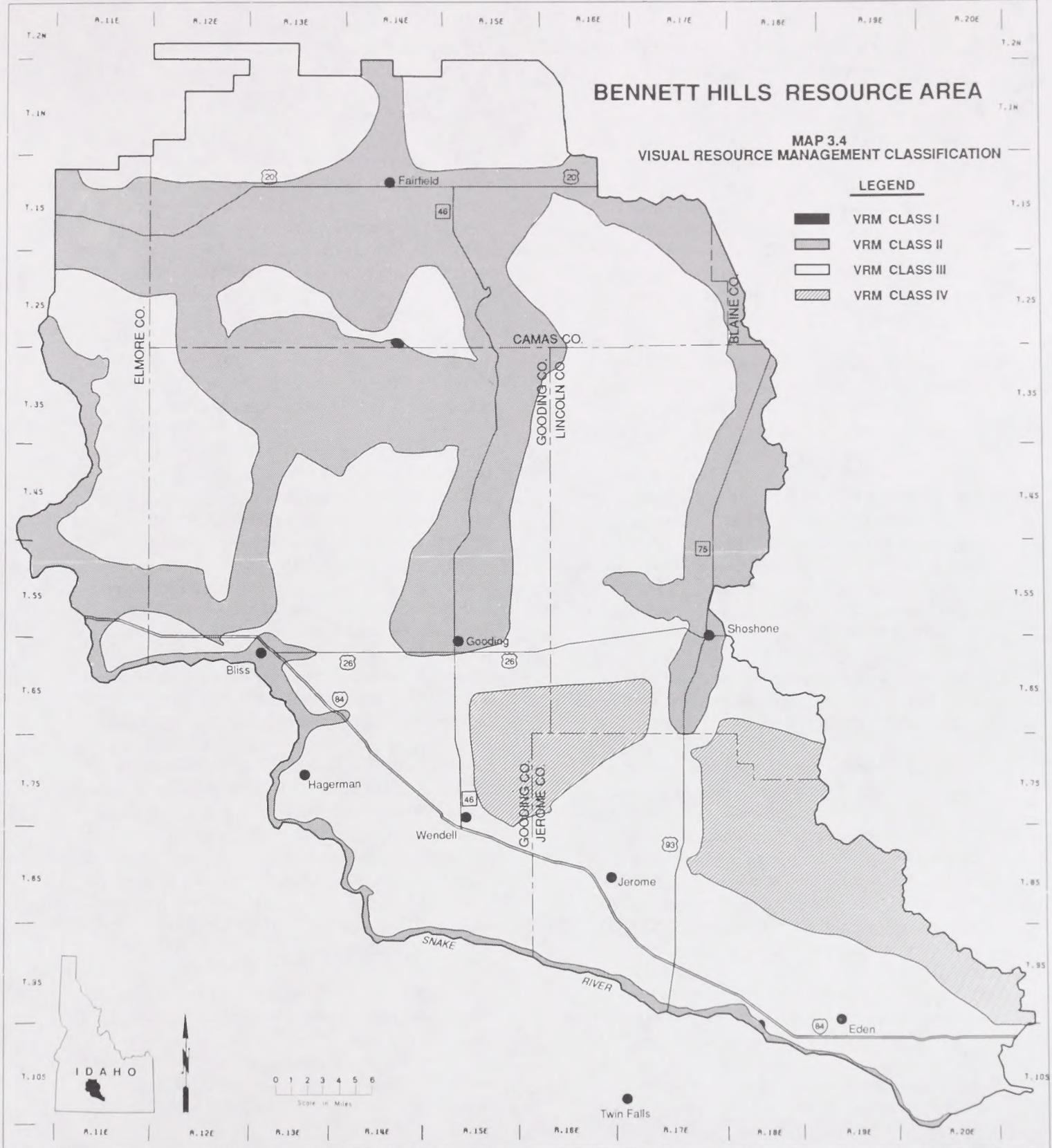
LEGEND

VRM CLASS I

VRM CLASS II

VRM CLASS III

VRM CLASS IV



## Wildlife and Fish Habitat

The terrestrial wildlife habitats on public land in the planning area were originally comprised of sagebrush/grass communities, with coniferous habitats on the cooler, more moist areas in the northern portion of the resource area. There are nine major habitat types in the planning area. Their importance to wildlife varies depending on the stage of ecological succession, the season of the year, and the wildlife species involved. Wildlife habitat conditions generally vary from poor in the lower elevation and lower precipitation zones of Wyoming big sagebrush and basin big sagebrush, to good in the upper elevation mountain big sagebrush zones. Heavy livestock grazing in the lower elevation winter use areas from the turn of the century to the 1950s, coupled with the introduction and spread of highly competitive exotic annual grasses, has resulted in large areas of low elevation wildlife habitat that lacks the desirable composition of grasses, forbs and shrubs. This problem has been compounded by frequent wild fires that have burned large areas of sagebrush and bitterbrush. These areas of annual grasses are prone to increased fire frequency that hamper re-establishment of sagebrush, bitterbrush and other desirable vegetation. The loss of natural vegetation composition has resulted in the elimination of habitat suitable for many resident and migratory game and non-game wildlife species. The fragmentation of native habitats has reduced the amount of suitable habitat needed to complete the life cycle of many wildlife species.

The greatest historic loss of game and non-game winter habitat in the southern portion of the planning area has occurred due to conversion of land for private agricultural use. This causes wintering animals to concentrate on the remaining winter habitat. This winter habitat is almost exclusively on public land. During winters with deep snow accumulations, big game migrate south to the depleted winter habitat in the southern reaches of the planning area. Severe winter conditions have resulted in crop depredation on private land, and extensive losses of game and non-game animals due to a lack of quality winter habitat on public land.

Public land within the area provides summer and crucial winter habitat for deer, elk, pronghorn

antelope and sage grouse. These species are the most abundant and widely dispersed of the game species, and they also have the most public interest from an economic, recreation and visual standpoint. A list of the wildlife species which use habitat in the planning area is shown in Appendix C.

**Mule Deer:** Public land in the planning area provides habitat for both resident and migratory deer herds. An estimated 4,300 deer are yearlong residents to the public land in the resource area. Besides the resident deer, about 17,000 more migrate from the north to winter on public land. Table 3.15 provides the most recent Idaho Department of Fish and Game mule deer population direction and goals by game management unit (Map 3.5). Public land in the planning area provides 30,100 deer months of forage for the summer use period and 86,750 deer months of forage for the winter use period.

The planning area contains 314,381 acres of crucial and important mule deer winter habitat on public land, or 81% of the total crucial range. The deer winter range is on the low elevation flats and south-facing slopes which support Wyoming big sagebrush, basin big sagebrush, and low sagebrush habitat types. Past heavy livestock grazing coupled with the establishment and spread of exotic annual grasses in the deer winter range has resulted in habitat that lacks the desirable natural diversity of grasses, forbs and shrubs. As a result, 50 percent of the existing plant communities in deer winter range provide poor deer winter habitat. The summer use areas are generally found at upper elevations in the resource area. These areas receive more annual precipitation and have not been subjected to the same land use pressures as the winter range. In general, summer use areas provide a desirable composition of grasses, forbs and shrubs for the existing population of resident mule deer. Broad seasonal use areas are shown on Map 3.6. Table 3.16 provides a summary of seasonal big game use acreage by game species within the planning area.

**Elk:** In 1965, 36 elk were released in the Bennett Hills by the Idaho Department of Fish and Game. It was anticipated that many of these animals would winter on land in the planning area and then migrate north into the mountains in the spring. However, the herd did not migrate to the north but stayed in the

planning area throughout the year. The elk herd now contains about 350 animals. Table 3.15 provides the most recent Idaho Department of Fish and Game elk population direction and goals by game management unit.

The resident and migrant elk population consumes approximately 4,620 elk months of forage on public land. Public land in the planning area contains 172,699 acres of elk winter habitat and 470,789 acres of elk summer habitat. The habitat condition of the elk use areas varies depending upon the season of use. An estimated 95 percent of the summer use areas provide fair to good elk habitat values, whereas only 65 percent of the winter use areas provide fair to good elk habitat. Map 3.6 shows the general location of seasonal elk use areas addressed by this plan.

Scattered patches of aspen and chokecherry in the Bennett Hills provide high value elk calving and foraging areas. The deep draws, rolling hills and abundant shrub cover provide suitable elk escape and resting cover. Maintenance or improvement of existing elk habitat values is important in both sustaining current population levels and in encouraging elk to forage on public land.

**Pronghorn Antelope:** The planning area contains yearlong habitat for an estimated population of 245 pronghorn antelope. This small pronghorn antelope herd began with only a few animals about 25 years ago. The present pronghorn antelope population consumes 2,940 antelope months of forage from public land in the planning area. Table 3.15 provides the most recent Idaho Department of Fish and Game pronghorn antelope population direction and goals by game management unit.

The pronghorn antelope habitat conditions can generally be described as poor. The present vegetation community lacks the desirable forbs and the necessary shrub composition and structure needed to fulfill pronghorn antelope habitat needs. Much of the higher quality pronghorn antelope habitat has been lost to fire, resulting in monocultures of planted crested wheatgrass or exotic annual grasses. These grass monocultures do not provide high value pronghorn antelope habitat. The small herd size and the very mobile nature of antelope have resulted in

them finding suitable forage over their use area. Refer to Table 3.16 for acreage of antelope habitat by seasonal use period and Map 3.7 for the general location of the seasonal use areas.

**Sage Grouse:** Sage grouse is probably the most wide spread and heavily hunted species of game bird in the planning area. Public land in the planning area supports 150,000 acres of sage grouse winter habitat and 293,200 acres of summer habitat. Refer to Map 3.8 for the location of sage grouse seasonal use areas. There are 118 known strutting ground locations in the planning area, of which 88 are currently active. Public land in the area contains 250,640 acres of sage grouse nesting and brood rearing habitat. Most of the existing breeding habitats support optimum shrub composition and structure for sage grouse, but lacks desirable forbs. The winter habitat that has not been modified by grass seedlings or wild fires are in excellent condition for wintering sage grouse due to dense sagebrush cover. An estimated 30 percent of the sage grouse winter habitat is in poor condition. Preservation of the remaining sage grouse winter habitat and restoration of large burn areas is essential for maintenance or improvement of traditional sage grouse wintering areas.

**Ring-Necked Pheasant:** The present pheasant population represents a significant decline from past population levels. Recent changes in irrigation and farming practices have resulted in a significant loss of high quality winter pheasant cover on private land. Areas of dense shrubs and riparian cover on public land provide good to excellent winter and escape cover. In some areas the only high quality winter cover is found on isolated tracts of public land. Protection and enhancement of shrub stands on these tracts are necessary to maintain and increase the pheasant population. Many land uses occur on the isolated tracts that adversely affect winter habitat quality and integrity.

**Bats:** The planning area is known to support nine species of bats. Bat species that occur in the area include: Townsend's big-eared bat, little brown bat, small-footed bat, long-eared bat, Yuma bat, pallid bat, western pipistrelle, silver-haired bat, and hoary bat. Lava tube caves in the planning area provide year round habitat for some species of bats.

## Wildlife and Fish Habitat

Depending on the species, bats may use lava tubes for daytime roosts, winter hibernation, and spring-summer maternity roosts. Many North American bat populations have experienced serious declines in the past 20-40 years, particularly those species which depend on cave habitats. Threats to cave dwelling bats may be placed into two main categories: alteration of the habitat and human disturbance. Alteration of cave habitat for bats includes the destruction of suitable roosting structure, the modification of cave openings, and the alteration of the sensitive cave environment. Alteration of the cave entrance can restrict free passage of bats and disrupt temperature and humidity levels in the cave. Human disturbance includes burning, fumigation, shooting, introducing foreign articles such as trash and human waste, and deliberately or accidentally disturbing hibernating bats and maternity colonies. The most important consideration for bat habitat in the planning area is the maintenance of undisturbed cave habitats.

**Raptors:** There are no less than 26 species of raptors (generally hawks, eagles, and owls) that have been documented to live in or near the Bennett Hills Resource Area. Of that, eight species enjoy a special status designation. Raptors exist at the top of a complex food chain and, as such, are sensitive indicators of general ecosystem health. The North Camas and Bennett Hills Geographic Reference Areas are especially rich in raptor populations, in part because of the high productivity and species diversity in the Camas Prairie.

**Neotropical Migratory Birds:** In the past 20 years a significant body of data has been gathered indicating an alarming downward population trend in song birds that winter in Mexico and South America and breed in North America. While most of the data concerning neotropical migratory birds has been gathered in the eastern United States, the same trends are appearing in the West. Many of these birds are associated with the riparian habitat in our area. They use riparian both for breeding and for resting during migrations that may extend for thousands of kilometers. Another sub-group of neotropical migratory birds of special interest in this area are song birds with documented significant population declines that occupy sagebrush/grassland habitats. This sub-group of species includes Brewer's sparrow,

vesper sparrow, white-crowned sparrow, and the loggerhead shrike. One hundred ninety-two out of a total of 278 bird species (69%) documented in or adjacent to the Shoshone District are neotropical migratory birds.

## Habitat Management Plans

Habitat Management Plans are developed for specific areas and animal species to guide and ensure adequate consideration of wildlife needs within the planning area. The Bennett Hills Resource Area contains several such plans.

### Isolated Tracts

There are currently 51 tracts of public land in the planning area totaling 6,349 acres that are being managed cooperatively by the Idaho Department of Fish and Game and the BLM under the Isolated Tracts Habitat Management Plan. The habitat management plan was developed in 1978 for the protection and enhancement of upland game habitat, primarily for pheasants. These parcels of land primarily support dense stands of mature shrubs with some riparian habitat. These scattered tracts typically contain the only permanent high quality winter and escape cover in a high intensity agricultural area. The primary objective of the habitat management plan is to maintain or improve the integrity of existing winter and escape cover and nesting cover for upland game birds. These tracts also provide breeding habitat and foraging areas for raptors and non-game species. Problems that have reduced the success of the plan include unauthorized livestock grazing, unauthorized agricultural use, and uses under public land laws that reduce the habitat values of the tracts.

**Johnson Hill:** The Johnson Hill Elk Habitat Management Plan was developed in 1983 to enhance the habitat values on 1,875 acres of elk spring and summer range in the Bennett Hills (Map 3.6). An equally important objective was to lure elk off private land where depredation was occurring and onto the public land. The habitat management plan proposes 32 separate prescribed burns ranging in size from 20 to 150 acres. Burns were planned to occur in the fall for a lighter burn that would reduce damage to herbaceous vegetation. The primary objective of the burns is the removal of shrubs to allow for an

increase in the amount and availability of grasses and forbs for elk. Enhancement of sage grouse brood rearing habitat is a secondary benefit from the burns. Eleven prescribed burns totaling 830 acres have been accomplished to date. The prescribed burns have achieved many stated management objectives. A 69,180-acre wild fire in August 1990 burned 14 treatment areas identified in the habitat management plan. This has resulted in a re-evaluation of the actions needed to satisfy the objectives of the plan.

### Fisheries

An aquatic habitat inventory of selected streams and reservoirs in the planning area was conducted by Rabe et al. in 1976 and by Reininger in 1978. Table 3.17 provides a listing for the major streams and Table 3.18 provides a listing of the reservoirs with fisheries values in the planning area.

Fisheries values have been determined for 65.1 miles of perennial stream in the planning area. Rainbow trout is the most abundant game fish in the area. The lower reaches of some larger streams contain small mouth bass, large mouth bass, yellow perch and bluegill. Appendix C provides a list of fish species known to exist in the planning area and their relative abundance.



**TABLE 3.15**  
**Idaho Department of Fish and Game**  
**Game Management Unit Populations Goals**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

IDFG Unit Number	Mule Deer Population Direction	Mule Deer Population Goal	Elk Population Direction	Elk Population Goal	Pronghorn Antelope Population Direction	Pronghorn Antelope Population Goal
43	Stable	Maintain	N/A	N/A	None	None
44	Stable	Maintain	Increase	Decrease	Stable	Maintain
45	Decrease	Maintain	Stable	Decrease	Increase	Maintain
48	Stable	Maintain	N/A	N/A	N/A	N/A
52	Stable	Maintain	Stable	Decrease	Increase	Maintain
53	Stable	Maintain	None	Maintain	Increase	Maintain

N/A - The identified big game animals in this management unit make insignificant use of public land in the planning area.

Source: IDFG. 1991

**TABLE 3.16**  
**Seasonal Big Game Use Acreage**  
**Bureau of Land Management**  
**Shoshone, Idaho**

Game Species	Total Acres of Crucial and Important Winter Range	Acres of Crucial and Important Public Winter Range	Total Acres of Summer Range	Acres of Public Summer Range
Deer	389,409	314,381	899,374	545,830
Elk	214,742	172,699	796,883	470,789
Pronghorn Antelope	421,055	240,001	1,082,524	607,393

Source: GIS, BLM. 1991

**TABLE 3.17**  
**Miles and Habitat Conditions of**  
**Inventoried Streams on Public Land**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Stream	Miles of Fish Habitat Inventoried on Public Land by Condition Class				Total Miles Inventoried on Public Land	Fishery Rating
	Excellent	Good	Fair	Poor		
Big Wood River		4.8	1.2		6.0	Good
Camas Creek		2.8	1.8	1.8	6.4	Poor
Clover Creek		8.0	2.8	4.8	15.6	Poor
Dry Creek		8.0		1.2	9.2	Poor
Ear Creek	0.8				0.8	Good
East Dempsey Creek				5.2	5.2	Poor
Hog Creek			6.8	0.4	7.2	Poor
King Hill Creek		9.6	2.0	0.3	11.9	Good
Rough Creek		0.1	1.4		1.5	Fair
South Fork Lime Creek	0.3	1.0			1.3	Good

Source: Rabe et al. 1976, Reininger 1978.

**TABLE 3.18**  
**Fishery Data for Selected Water Bodies**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

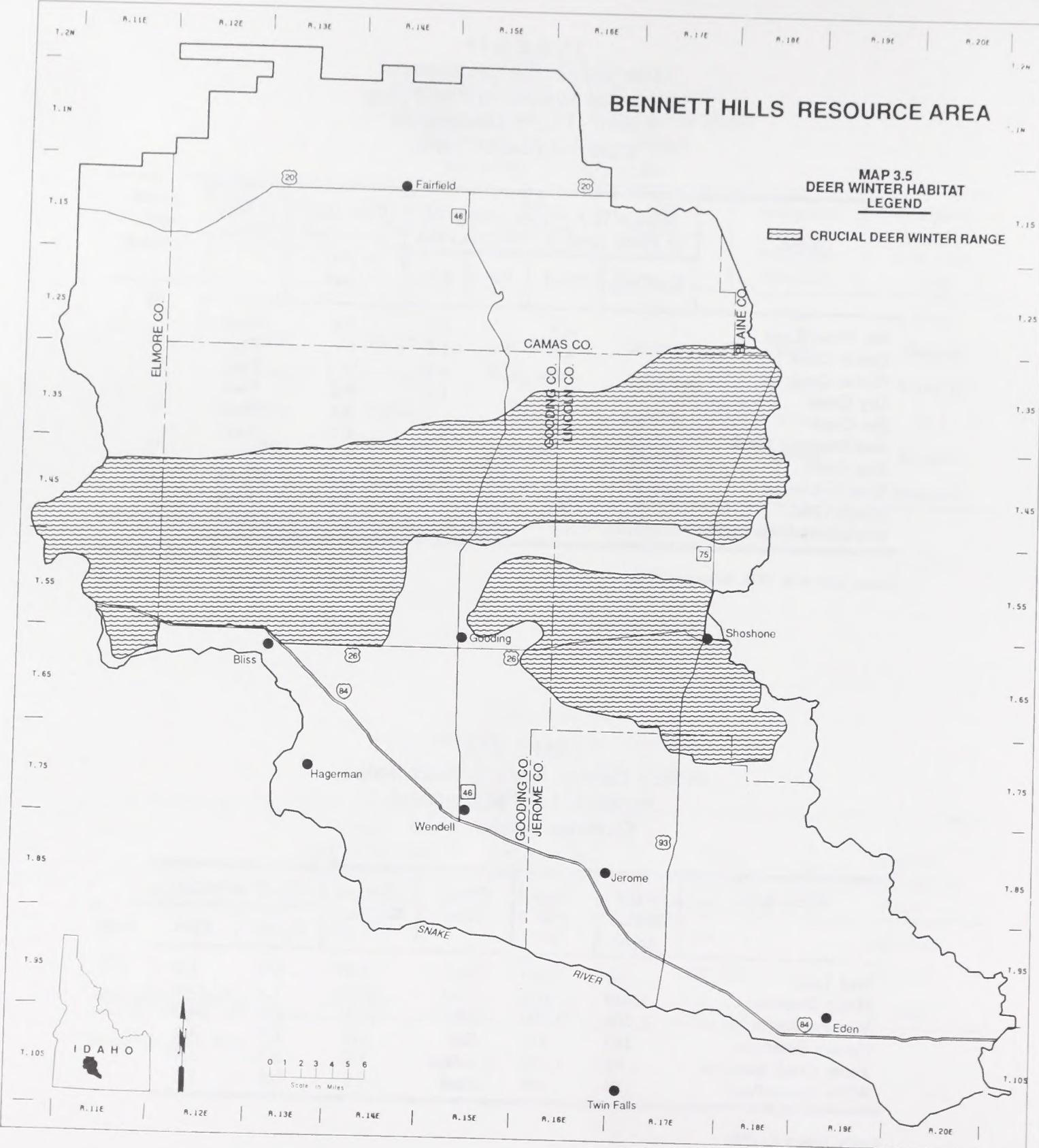
Water Body	Water Surface Acres	Acre Feet	Fishery Value	Miles of Shoreline	Shoreline (miles)	
					Private	BLM
Bray Lake	60	600	Poor	1.3	0.0	1.3
Magic Reservoir	3,420	191,000	Good	23.0	7.5	15.5
Mormon Reservoir	1,500	32,000	Good	16.5	2.5	14.0
Pioneer Reservoir	180	515	Fair	4.9	1.7	3.2
Thorn Creek Reservoir	90	1,050	Excellent	3.9	0.0	3.9
White Arrow Pond	50	100	Good	1.2	0.0	1.2

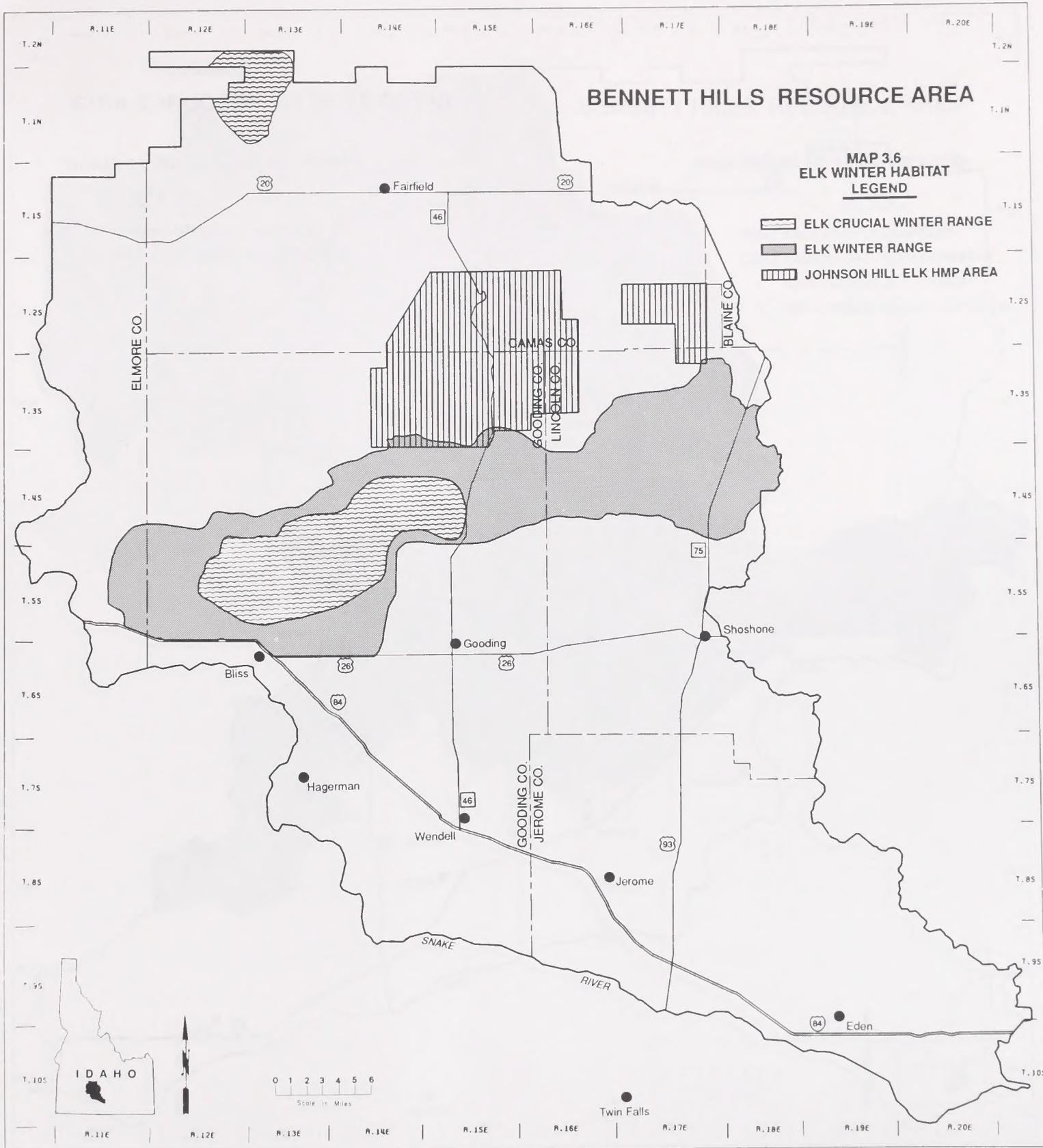
Source: Rabe et al. 1976.

# BENNETT HILLS RESOURCE AREA

MAP 3.5  
DEER WINTER HABITAT  
LEGEND

■ CRUCIAL DEER WINTER RANGE





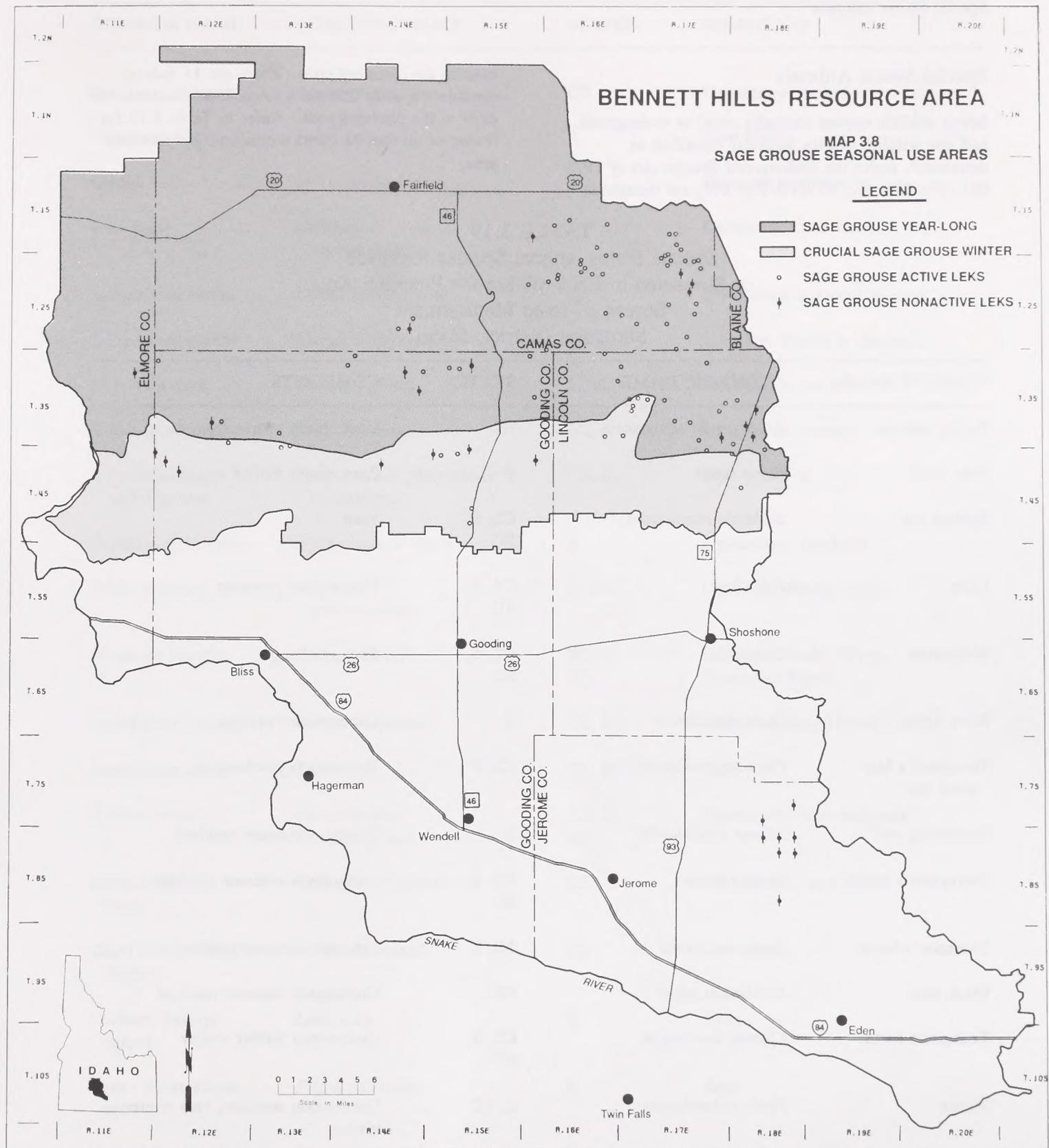
**BENNETT HILLS RESOURCE AREA**

**MAP 3.7**  
**PRONGHORN ANTELOPE WINTER HABITAT**

**LEGEND**

- CRUCIAL ANTELOPE WINTER RANGE (Wavy lines)
- ANTELOPE WINTER RANGE (Solid grey)

The map displays the Bennett Hills Resource Area in Idaho, spanning parts of Elmore, Camas, Gooding, Lincoln, Jerome, and Blaine counties. The Snake River flows through the area. Key towns marked include Fairfield, Bliss, Hagerman, Wendell, Jerome, Shoshone, and Twin Falls. State highways 20, 46, 84, and 93 are shown. The map also includes a scale bar from 0 to 6 miles and a north arrow.



## Special Status Animals

Seven wildlife species federally listed as endangered, and one wildlife species federally classified as threatened, under the *Endangered Species Act of 1973* (50 CFR Part 402, 43 CFR Part 870) are thought to

exist in the planning area. There are 18 federal candidate species that are known or are suspected to exist in the planning area. Refer to Table 3.19 for a listing of all special status animals in the planning area.

TABLE 3.19  
Special Status Animal Species Reported  
or Suspected to Exist Within the Planning Area  
Bureau of Land Management  
Shoshone District, Idaho

COMMON NAME	SCIENTIFIC NAME	STATUS	COMMENTS
Pygmy rabbit	<i>Brachylagus idahoensis</i>	C2	Uncommon yearlong
Grey wolf	<i>Canis lupus</i>	E	Rare winter visitor
Spotted bat	<i>Euderma maculatum</i>	C2, S, SC	Rare
Lynx	<i>Felis lynx</i>	C2, S, SC	Uncommon yearlong
Wolverine	<i>Gulo gulo</i>	C2, S, SC	Rare yearlong
River otter	<i>Lutra canadensis</i>	S	Uncommon yearlong
Townsend's big-eared bat	<i>Plecotus townsendii</i>	C2, S	Uncommon yearlong
Burrowing owl	<i>Athene cunicularia</i>	S	Common summer resident
Ferruginous hawk	<i>Buteo regalis</i>	C2, S, SC	Uncommon summer resident
Swainson's hawk	<i>Buteo swainsoni</i>	3C, S	Common summer resident
Black tern	<i>Chlidonias niger</i>	C2	Uncommon summer resident
Trumpeter swan	<i>Cygnus buccinator</i>	C2, S, SC	Uncommon winter visitor
Merlin	<i>Falco columbarius</i>	S, SC	Uncommon summer, rare winter visitor

COMMON NAME	SCIENTIFIC NAME	STATUS	COMMENTS
Northern goshawk	<i>Accipiter gentilis</i>	C2	Uncommon to rare
Peregrine falcon	<i>Falco peregrinus</i>	E	Rare visitor
Gyrfalcon	<i>Falco rusticolus</i>	S	Uncommon winter visitor
Bald eagle	<i>Haliaeetus leucocephalus</i>	E	Common winter visitor
Loggerhead shrike	<i>Lanius ludovicianus</i>	C2	Uncommon summer resident
Long-billed curlew	<i>Numenius americanus</i>	3C, S	Common March to August
Mountain quail	<i>Oreortyx pictus</i>	S, SC	Uncommon resident
White-faced ibis	<i>Plegadis chihi</i>	C2, S	Uncommon summer resident
Columbian sharp-tailed grouse	<i>Tympanuchus phasianellus columbianus</i>	C2, S	Rare yearlong
Western night snake	<i>Hypsiglena torquata</i>	S	Uncommon yearlong
White sturgeon	<i>Acipenser transmontanus</i>	S, SC	Common, Snake River
Shoshone sculpin	<i>Cottus greenei</i>	3C, S, SC	Common, Snake River, Hagerman Reach
Wood River sculpin	<i>Cottus leiopomus</i>	C2, SC	Common, Wood River system
Leatherside chub	<i>Gila copei</i>	C2, SC	Rare
Redband trout	<i>Oncorhynchus mykiss gibbsi</i>	C2, S, SC	Population status unknown
Idaho Dunes tiger beetle	<i>Cicindela arenicola</i>	C2	Uncommon, sand dunes
Giant Columbia River limpet	<i>Fisherola nuttalli</i>	C2	Uncommon
Banbury Springs limpet	<i>Lanx n.sp</i>	E	Rare
Snake River Physa snail	<i>Physa natricina</i>	E	Rare
Idaho Springsnail	<i>Pyrgulopsis idahoensis</i>	E	Rare. Is not within the planning area, but is within area of potential effects.

COMMON NAME	SCIENTIFIC NAME	STATUS	COMMENTS
Bliss Rapids snail	Undescribed	T	Rare
Utah Valvata snail	<i>Valvata utahensis</i>	E	Rare

**FEDERAL STATUS CATEGORIES under the Endangered Species Act of 1973:**

**E - Endangered.** Taxa in danger of extinction throughout all or a significant portion of their range.

**T - Threatened.** Taxa likely to be classified as Endangered within the foreseeable future throughout all or a significant portion of their range.

**C1 - Federal Category One Species.** U.S. Fish and Wildlife Service has sufficient data to support listing as endangered or threatened.

**C2 - Federal Category Two Species.** Species for which there is some concern, but the U.S. Fish and Wildlife Service lacks sufficient data for preparing a listing package.

**3C - Federal Category Three Species.** Former candidate species. Taxon is more widespread or abundant than previously believed, or is not subject to identifiable threats.

**BUREAU OF LAND MANAGEMENT SENSITIVE SPECIES**

**S** - Species of wildlife in Idaho whose populations are consistently small and widely dispersed, or whose ranges are restricted to a few localities such that any appreciable reduction in numbers, habitat availability, or habitat conditions might lead toward extinction. It is Bureau of Land Management policy to manage habitat for Sensitive Species to minimize the need for future listing of such species as Threatened or Endangered under the Endangered Species Act.

**IDAHO DEPARTMENT OF FISH AND GAME SPECIES OF SPECIAL CONCERN:**

**SC** - Species with restricted ranges, specific habitat requirements, or low numbers which make them vulnerable to elimination from the state. This classification does not provide any statutory protection for a species.

## Special Status Plants

Two federal candidate plant species exist in the planning area. Five federal candidate plant species

are thought to exist in the planning area. Table 3.20 provides a listing of all special status plants that may live in the planning area.

**TABLE 3.20**  
**Special Status Plants**  
**Reported to Exist Within the Planning Area**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

COMMON NAME	SCIENTIFIC NAME	STATUS	HABITAT
Mourning Milkvetch	<i>Astragalus atratus</i> var. <i>inseptus</i>	C1, S	Shallow clay soils over basalt
Snake River Milkvetch	<i>Astragalus purshii</i> var. <i>ophiogenes</i>	3C	Sandy river terraces, bluffs, and dunes
Giant Helleborine	<i>Epipactis gigantea</i>	S	Hot or cold springs and seepage areas
White Eatonella	<i>Etonella nivea</i>	S	Dry sandy or volcanic areas
Large-flowered Gymnosteris	<i>Gymnosteris nudicaulis</i>	S	Sandy soils in sagebrush
Small-flowered Gymnosteris	<i>Gymnosteris parvula</i>	S	Loamy to sandy soils in sagebrush
Stool Lupine	<i>Lupinus lepidus</i> var. <i>sellulus</i>	S	Seasonally moist drainages
Bugleg Goldenweed	<i>Haplopappus insecticurris</i>	C1, S	Loamy soils on open prairie-like sites
Fringed Waterplantain	<i>Machaerocarpus californicus</i>	S	Marshy areas
Desert Dandelion	<i>Malacothrix glabrata</i>	S	Barren sandy or ashy badlands
Torrey's Blazing Star	<i>Mentzelia torreyi</i> var. <i>acerosa</i>	S	Barren sandy or volcanic soils at lower elevations
Tree-like Oxytheca	<i>Oxytheca dendroidea</i>	S	Sandy soils
Least Phacelia	<i>Phacelia minutissima</i>	S	Moist open sites at mid elevations in the mountains

## Special Status Plants

COMMON NAME	SCIENTIFIC NAME	STATUS	HABITAT
Cusick's Primrose	<i>Primula cusickiana</i>	S	Shallow, poorly drained volcanic soils
Hooked Stylocline	<i>Stylocline filaginea</i>	S	Shallow volcanic cinder soils over stony basalt
Picabo Milkvetch	<i>Astragalus oniciformis</i>	3C, S	Sandy soils
Tall Dropseed	<i>Sporobolus asper</i>	S	Basalt terrace of Snake River rim

Status current as of September, 1993.

### FEDERAL STATUS CATEGORIES under the Endangered Species Act of 1973:

C1 - Federal Candidate Category One. U.S. Fish and Wildlife Service has sufficient data to support listing as endangered or threatened.

C2 - Federal Candidate Category Two. Species for which there is concern, but the U.S. Fish and Wildlife Service lacks sufficient data for preparing a listing package.

3C - Federal Category Three. Former candidate plants. Taxon is more widespread or abundant than previously believed, or is not subject to identifiable threats. There is no need to list taxon as endangered or threatened.

### BUREAU OF LAND MANAGEMENT SPECIAL STATUS PLANTS:

S - A species, subspecies or variety of plant in Idaho whose populations are consistently small and widely dispersed, or whose ranges are restricted to a few localities such that any appreciable reduction in numbers or habitat conditions might lead toward extinction. It is Bureau of Land Management policy to manage habitat for Sensitive Species to minimize the need for future listing of a plant species, subspecies or variety as threatened or endangered under the Endangered Species Act.

## Forestry

The public land of the Bennett Hills Resource Area includes 4,959 acres of commercial forest land. The commercial timber land is located in 78 stands ranging from 5 to 561 acres. An extensive inventory was completed in 1975 and a Timber Production Capability Classification Inventory was completed in 1979 for the Shoshone District. Douglas-fir and Ponderosa pine are the major commercial species with minor amounts of lodgepole pine, Engelmann spruce and subalpine fir. The resource area also contains 488 acres of noncommercial forest land having quaking aspen, juniper, alder, willow and chokecherry.

The Timber Production Capability Classification Inventory looked at a total of 5,447 acres of forest land of which 4,959 acres, or 91 percent, were

identified as suitable for the production of forest products. All commercial sites were classified as restricted for timber harvesting. Fragile sites account for 739 acres while the remaining 3,414 acres will require special attention to assure adequate reforestation after harvest due to brush competition or dry soils. Approximately 806 acres of forest land were removed from the forest base due to reforestation problems, moisture, fragile site and/or productivity reasons (incapable of producing 20 cubic-feet-per-acre per year).

## Livestock Grazing Management

The production of livestock is an important agricultural land use on public land in the resource area. Currently, 112 permittees are authorized to graze 25,643 cattle, 39,399 sheep, and 45 horses on 102 grazing allotments (see Map 3.9). In addition,

five allotments are unallotted and have no established preference, kind of livestock, season of use, or grazing system. Twenty-three allotments have more than one grazing permittee and 79 allotments have one permittee. The current active grazing qualifications on public land total 82,301 animal unit months (AUMs). The actual use for 1990 was 76 percent or 62,437 AUMs, for 1991 actual use was 68 percent or 55,878 AUMs, and for 1992 actual use was 46 percent or 37,961 AUMs. The nine-year average actual use from 1984 through 1992 was 68 percent or 56,302 AUMs. The present authorized grazing use and season is listed by allotment in Table A-1 of Appendix A. Allotments were used so that AUMs and animal numbers could be compared to other tabulated information.

The resource area presently has 21 signed and three draft allotment management plans (AMPs) of which two are in the maintain (M) category and 18 are in the improve (I) category. There are 30 allotments under a management agreement of which one is under the maintain (M) category and 29 are under the improve (I) category. Appendix A, Table A-2 lists

allotment name, allotment category, management status, and year established.

Rangeland monitoring is being conducted on each allotment. Analysis, interpretation, and evaluations (AIEs) have been completed on 33 allotments. Table A-3 in Appendix A lists the allotments, type of monitoring being conducted, and AIEs completed to date.

Range improvements have been established throughout the area to enhance livestock management and other resource values. Table 3.21 summarizes the types of range improvement projects established since 1940.

The allotments in the planning area have been categorized according to the BLM Grazing Management Policy. The allotments were placed in one of three categories, seven in Maintain (M), eighty-one in Improve (I), and nineteen in Custodial (C) to protect the basic soil, vegetation, and water resources. These categories guide management practices on each allotment. Refer to Table A-2, Allotment Categorization, in Appendix A.

**TABLE 3.21**  
**Summary of Completed Range Improvements (1940-1992)**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

	Units	BLM Costs (\$)	Contributed Costs (\$)
Brush Control/Seeding (acres)	232,900	1,143,800	16,200
Cattleguards (#)	134	374,400	600
Erosion Control-Gabions (#)	3	1,800	0
Fence Construction (miles)	697	918,500	5,900
Pipeline Installation (miles)	106	293,200	3,000
Reservoir Construction (#)	269	107,000	4,800
Spring Development (#)	67	25,500	1,600
Well Development (#)	34	19,200	9,100

Source: Rangeland Improvement Project System

## Horses and Burros

### Horses and Burros

There are no known wild horses or burros in the planning area. There shall be no wild horse or burro herd areas designated in the planning area or authorizations for wild horses or burros.

### Cultural Resources

Only about 5 percent of the planning area has been intensively inventoried for cultural resources. Out of this limited inventory, Cauldron Linn, a historic site on the Snake River, is the only site listed on the National Register of Historic Places. Several sites have been determined eligible for the National Register. Among these are Devil's Corral for prehistoric remains, a part of the Wendell Exchange Area for historic irrigation, Cannonball Mountain Prehistoric Lithic Quarry, and prehistoric sites along the Snake River. Several more have been identified as potentially eligible for the National Register of Historic Places. These include Chinese mining and other early mining town sites along the Snake River, prehistoric salmon fishery/habitation sites along the Snake River, the King Hill prehistoric complex of sites, Kelvin's Cave for early prehistoric remains. It also includes the Bennett Hills petroglyphs, the Thorn Creek-Camas Prairie Complex of sites, parts of the Northside Alternate Emigrant Trail, parts of the Walgamot Road from Shoshone Falls to Ketchum, parts of the Boise-Kelton Road, and early homestead locations.

A few of the sites currently recorded in the planning area have been evaluated for eligibility. Many of them remain to be evaluated.

### Lands

Generally, the public land is used under authority of rights-of-way, permits, leases, and withdrawals. Portions of this public land is subject to withdrawals or de-facto withdrawals such as public water reserves, land use classifications, multiple use classification, power site classifications or reserves, and *Recreation and Public Purpose Act* leases. Refer to Table 3.22 for type and acreage of *Recreation and Public Purposes Act* leases by county. See Table

3.23 for type and acreage of the withdrawals by county.

**Agricultural Land Laws:** The BLM may dispose of public land under the agricultural land laws of the *Desert Land Entry Act* or the *Carey Act*, if specific conditions and requirements are met. Presently, there are three *Desert Land Entry Act* applications on file within the Bennett Hills Resource Area. Although the *Carey Act* is still in effect, there are no applications on file for public land within the planning area.

**Land for Local Government and Community Expansion :** There are three active and one inactive county landfill on public land within the Bennett Hills Resource Area. These landfills were authorized under the *Recreation and Public Purposes Act*. The leases for the landfills have either 20 or 25 year terms. Only Gooding and Jerome Counties are involved. Gooding County has one lease that was issued in 1974 and will expire in 1999. Jerome County has three leases: Hazelton which was leased in 1983 with a 20-year term, Flat Top leased in 1983 with a 20-year term, and Eden leased in 1985 with a 25-year term.

On October 9, 1991, the Environmental Protection Agency revised federal criteria of municipal solid waste landfills under Subtitle D of the *Resource Conservation and Recovery Act*. Under these criteria, landfills receiving an average of less than 20 tons of municipal solid waste per day must comply with Subtitle D requirements if final cover over the site is not installed by October 9, 1996. Landfills receiving from 20 to less than 100 tons per day will be required to comply if final cover isn't in place by October 9, 1994. Gooding and Jerome counties are developing closure plans for their landfills, in anticipation of closing the landfills before the compliance deadline. Both counties belong to the Southern Idaho Regional Solid Waste District. The regional district is working on a regional landfill scheduled to open in 1994.

**Present Use Authorizations:** The BLM authorizes the use of the public land. Those uses consist of roads, power lines, recreation sites, irrigation ditches and canals, irrigation pipelines, flood right areas, landfills, temporary farming of public land, and

power plant facilities. It also includes authorizing temporary occupancy of public land for off-line fences or other structures.

These uses are authorized and documented through the issuance of permits, *Recreation and Public Purposes Act* leases, cooperative agreements, and rights-of-way.

There are currently 29 permits, 13 *Recreation and Public Purposes Act* leases, a cooperative agreement, and 379 rights-of-way authorized within the Bennett Hills Resource Area. These granted authorities encumber a total of 27,781 acres of public land.

TABLE 3.22  
Recreation and Public Purposes Act Lease Acres by County  
Bureau of Land Management  
Shoshone District, Idaho

Use	Blaine	Elmore	Camas	Gooding	Lincoln	Jerome	Total
Schools	0	0	0	0	0	0	0
Parks	0	0	0	0	0	0	0
Landfills	0	0	0	80	0	220	300
Cemetery	0	0	0	0	0	0	0
Rifle/Archery Ranges	0	0	0	0	0	0	0
Miscellaneous	1.5	0	30	0	0	100	130.5
<b>TOTAL</b>	<b>1.5</b>	<b>0</b>	<b>30</b>	<b>80</b>	<b>0</b>	<b>320</b>	<b>330.5</b>

TABLE 3.23  
Withdrawals by Type and Acres by County  
Bureau of Land Management  
Shoshone District, Idaho

Withdrawal	Blaine	Elmore	Camas	Gooding	Lincoln	Jerome	Total
Public Water Res.	0	0	122	0	0	0	122
Land Classification	0	1560	0	10520	600	4475	17155
Power Site	0	712	0	1070	0	1127	2909
Rec. & Public Pur.	0	0	30	275	0	320	625
Bur. of Rec.	0	0	0	320	700	3557	4577
<b>TOTAL</b>	<b>0</b>	<b>2272</b>	<b>152</b>	<b>12185</b>	<b>1300</b>	<b>9379</b>	<b>25288</b>

## Areas of Critical Environmental Concern

### Areas of Critical Environmental Concern

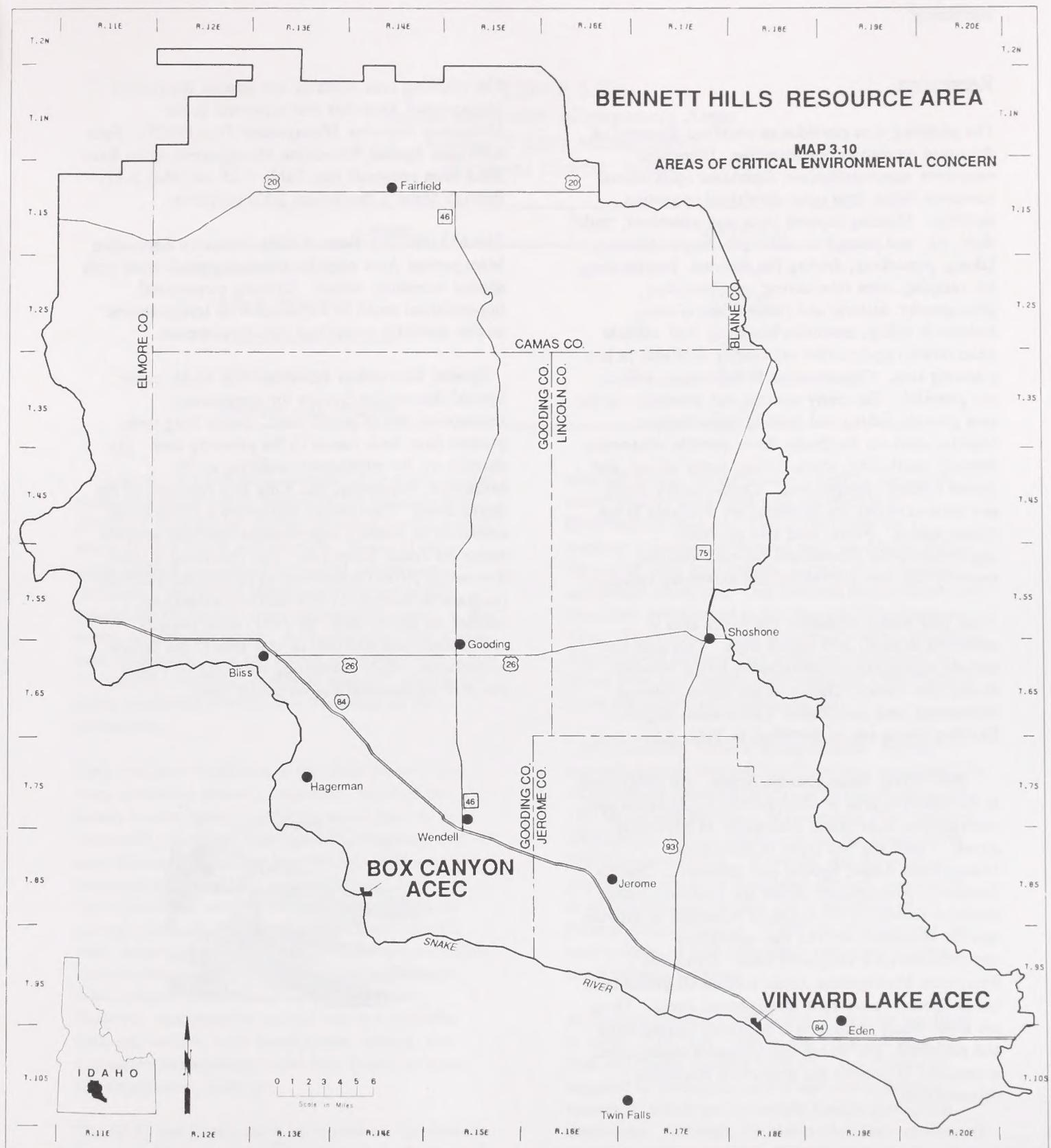
The Monument Resource Management Plan of 1985 designated two sites as Areas of Critical Environmental Concern (see Map 3.10). Both areas were designated for the protection of threatened or

endangered aquatic species and to preserve the unique spring ecosystem alcove (see Table 3.24). In that same year a management plan for the Box Canyon Area of Critical Environmental Concern was prepared.

TABLE 3.24  
Areas of Critical Environmental Concern  
Bureau of Land Management  
Shoshone District, Idaho

Name	Objective	Acres
Box Canyon	Protection of area's special values including the Shoshone sculpin ( <i>Cottus greenei</i> ) and the Bliss rapids snail.	142
Vineyard Lake	Protection of area's special values including the spawning habitat for unique cutthroat/rainbow hybrid trout.	110

Source: Shoshone District Geographic Information System



## Recreation

The planning area provides an excellent diversity of dispersed recreation opportunities. Dispersed recreation opportunities are dependent upon natural resources rather than upon developed recreation facilities. Hunting (upland birds and waterfowl, mule deer, elk, and pronghorn antelope), target shooting, hiking, picnicking, driving for pleasure, backpacking, car camping, lava tube caving, rockhounding, photography, historic and cultural site viewing, horseback riding, mountain bicycling, and wildlife observation opportunities are readily available in the planning area. Opportunities to experience solitude are plentiful. The many streams and reservoirs in the area provide fishing and boating opportunities. Various areas on the Snake River provide whitewater boating, snorkeling, scuba diving, water skiing, and power boating opportunities. Cross-country skiing and snowmobiling opportunities are available in the winter season. Public land also provides opportunities for recreational off-road vehicles, motorcycles, and four-wheel and all-terrain vehicles.

Total year round recreation use in the area is estimated to be 61,200 visitor days. This does not include significant tourist-oriented traffic between Boise, Sun Valley, Craters of the Moon National Monument, and the Greater Yellowstone Region. Existing visitor use is described in Table 3.27.

**Recreation Management Areas:** All public land in the resource area is administratively classified into management units called Recreation Management Areas. There are two types of Recreation Management Areas: Special and Extensive. Special Recreation Management Areas are established when intensive recreation management is needed to provide specific recreation activity and experience opportunities on a long-term basis. Extensive Recreation Management Areas include all public land not in Special Recreation Management Areas. These are areas where recreation is relatively unstructured and dispersed, and where less intensive management is required to provide the prescribed recreation opportunities.

The planning area contains one Special Recreation Management Area that was approved in the *Monument Resource Management Plan* (1985). Four additional Special Recreation Management Areas have since been proposed (see Table 3.25 and Map 3.11) through Idaho's *Recreation 2000* initiative.

The 613,080-acre Bennett Hills Extensive Recreation Management Area contains many dispersed areas with special recreation values. Existing recreational opportunities could be enhanced with interpretation and/or carefully prescribed site development.

**Special Recreation Permits:** The BLM issues Special Recreation Permits for commercial recreational use of public land. Seven long-term permits have been issued in the planning area. Six permits are for whitewater outfitting on the Murtaugh, Hagerman, and King Hill stretches of the Snake River. One permit authorizes a professional counselor to conduct experimental repelling sessions along the Snake River rim. The remaining Special Recreation Permit authorizes an adolescent treatment program to conduct 21-day survival/wilderness courses on public land. In 1992, these permits collectively paid \$33,000 in user fees to the federal government, while accounting for 150,000 visitor hours of recreational use on public land.



**TABLE 3.25**  
**Special Recreation Management Areas**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Name	Size (Acres)
Snake River Rim	5,102
Magic Reservoir	14,370
Thorn Creek Reservoir	2,000
T-Maze Cave	9,800
Gooding City of Rocks	37,535

**Caves:** An extensive network of lava tube caves twists and winds below ground in the planning area, providing recreational caving opportunities for a wide range of skill levels and interests. Many of these caves contain specialized biological habitats and uncommon geological phenomena that are highly susceptible to damage from incompatible uses. A few caves, notably the Magic, Arch, and Cat Skull Caves near Mammoth Cave are known to contain high levels of naturally occurring inorganic arsenic. Studies are being conducted to determine the extent of this phenomena.

Cave resource conditions in the planning area vary from pristine to severely impacted. Most of the locally known, easily accessible caves have been irreversibly damaged by vandalism, dumping, theft of cave features, and/or bat harassment. Because cave resources are essentially non-renewable, these actions have effectively resulted in the permanent loss of geologic features, biological habitat, and scientific study opportunities. Although many easily accessible caves in the planning area have sustained damage, many remote caves remain virtually pristine. However, incompatible recreational use and other land uses such as road construction, mining, and vegetative management could pose threats to these remaining cave resources.

The BLM has Cooperative Management Agreements for cave management with the Gem State Grotto and

with the Magic Valley Grotto. Grottos are caving clubs, usually associated with the National Speleological Society. The district also has a working volunteer agreement with the Magic Valley Grotto for cave exploration, inventory, restoration, and public education. One hundred twenty-five caves have been inventoried in the Bennett Hills Resource Area. The resource area is currently using inventory data received through this volunteer agreement to assess cave significance, following the 1989 *Federal Cave Resources and Protection Act*.

**Off-Highway Vehicle Designations:** No off-highway vehicle designations have been completed for recreation management purposes in the planning area. The Monument Resource Management Plan outlined off-highway vehicle allocations for the Snake River Rim Recreation Area. However, the designation process has not been completed through preparation of an implementation plan and publication of a *Federal Register* notice. Public land in the area has been a focus of both motorized and non-motorized based advocacy groups.

A seasonal closure to off-highway vehicles occurred in 1988, 1989, and 1990, in the King Hill area of Fish and Game Hunting Unit 45. The closure is intended to protect the area's soil and vegetation resources, which are especially fragile during wet conditions. Although the closure has been moderately

successful, the BLM could provide better resource protection with increased law enforcement patrols.

**Recreation Opportunity Spectrum:** The BLM and the Forest Service have adopted a recreation planning system called the Recreation Opportunity Spectrum. The Recreation Opportunity Spectrum is based on the idea that visitors participate in different recreation activities in different settings to have certain experiences. The basic assumption underlying the system is that quality in outdoor recreation is best assured through provision of a diverse set of opportunities.

The Recreation Opportunity Spectrum provides a method of identifying which areas are currently providing what kinds of recreational opportunities. This is done by analyzing the physical, social, and managerial components of each area. The physical setting is defined by the absence or presence of human sights and sounds, size, and the amount of

environmental modification caused by human activity. The social setting reflects the amount and type of contact among individuals or groups. It suggests opportunities for solitude, for interactions with a few selected individuals, or for large group interactions. The managerial setting reflects the amount and kind of restrictions placed on people's actions by the administering agency.

An inventory was completed for all land within the planning area, including lands administered by federal, state, and local agencies, and private land. The recreation opportunity settings and descriptions for categories found in the planning area are listed in Table 3.26, along with the degree to which they occur in the resource area (Map 3.12). The descriptions are for general purposes only; site specific factors such as topography, vegetation, and visitor use patterns may take precedence over size and remoteness criteria in classifying an area.



**TABLE 3.26**  
**Recreation Opportunity Spectrum Classification<sup>1/</sup>**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Semi-Primitive Non-Motorized	Semi-Primitive Motorized	Roaded Natural	Rural and Urban
<b>Physical Characteristics (Land and Facilities)</b>			
A largely unmodified natural environment with few facilities that are hardly noticeable. Facilities are provided for resource protection and user safety only. Usually more than $\frac{1}{2}$ mile from all roads or railroads, and more than 2500 acres in size.	A largely unmodified natural environment with few facilities that are hardly noticeable. Facilities may be provided for resource protection, user safety, and user convenience. Usually at least $\frac{1}{2}$ mile from improved roads, and more than 2500 acres in size.	A modified landscape, somewhat retaining its natural appearance. Facilities may be provided to manage and accommodate greater numbers of users. Paved roads and highways present, structures common but scattered.	A substantially modified landscape having both manmade and natural features. Roads, highways, cultivated lands, and structures are common. Facilities may be provided for intensive visitor use.
<b>Social Characteristics (Visitor Use and Its Evidence)</b>			
Good opportunities for isolation from the sights and sounds of people. Few contacts with other people, although some evidence of other users may occur.	Some opportunities for isolation from the sights and sounds of other people. Some contacts with other people may occur, and there is often evidence of other users.	Contact with others is common, but not continual. Evidence of other uses is common.	Contact with others is frequent and sometimes continual. Evidence of other users is common.
<b>Managerial Characteristics (Management of the Land and Facilities, the Visitor, and Other Resources)</b>			
Area is free of most land uses that noticeably affect the landscape. Little or no evidence of primitive roads or motorized uses. Visitor management controls and regulations are few and are subtle. Activities are almost always non-motorized and include camping, hiking, horseback riding, nature study, fishing, and hunting.	Land uses like grazing, mining, water developments and off-highway vehicle use may be evident. Primitive roads and motorized use are present. Few visitor management controls and regulations. Law enforcement occasionally visible. Activities may include those present in the semi-primitive non-motorized category, in addition to motorized off-road vehicle use, mountain bicycling, and motor boating.	Many land uses are evident. Regular auto use and off-highway vehicle use occurs. A moderate amount of visitor management controls and regulations are noticeable. Law enforcement is occasionally visible. Activities include all those listed under previous categories and also include auto touring.	Land uses may dominate the landscape. Regular highway vehicles are common. Visitor controls and regulations are noticeable. Law enforcement presence is visible. Activities are numerous and may be concentrated.
81,222 acres	445,753 acres	112,924 acres	9,887 acres

1/ The BLM and other agencies use the Recreation Opportunity Spectrum to characterize recreation opportunities in terms of the setting, activities, and experiences available in a given area. The spectrum contains six classes, ranging from less to more developed; primitive, semi-primitive non-motorized, semi-primitive motorized, roaded natural, rural, and urban. Here are descriptions of the classes referred to in this chapter.

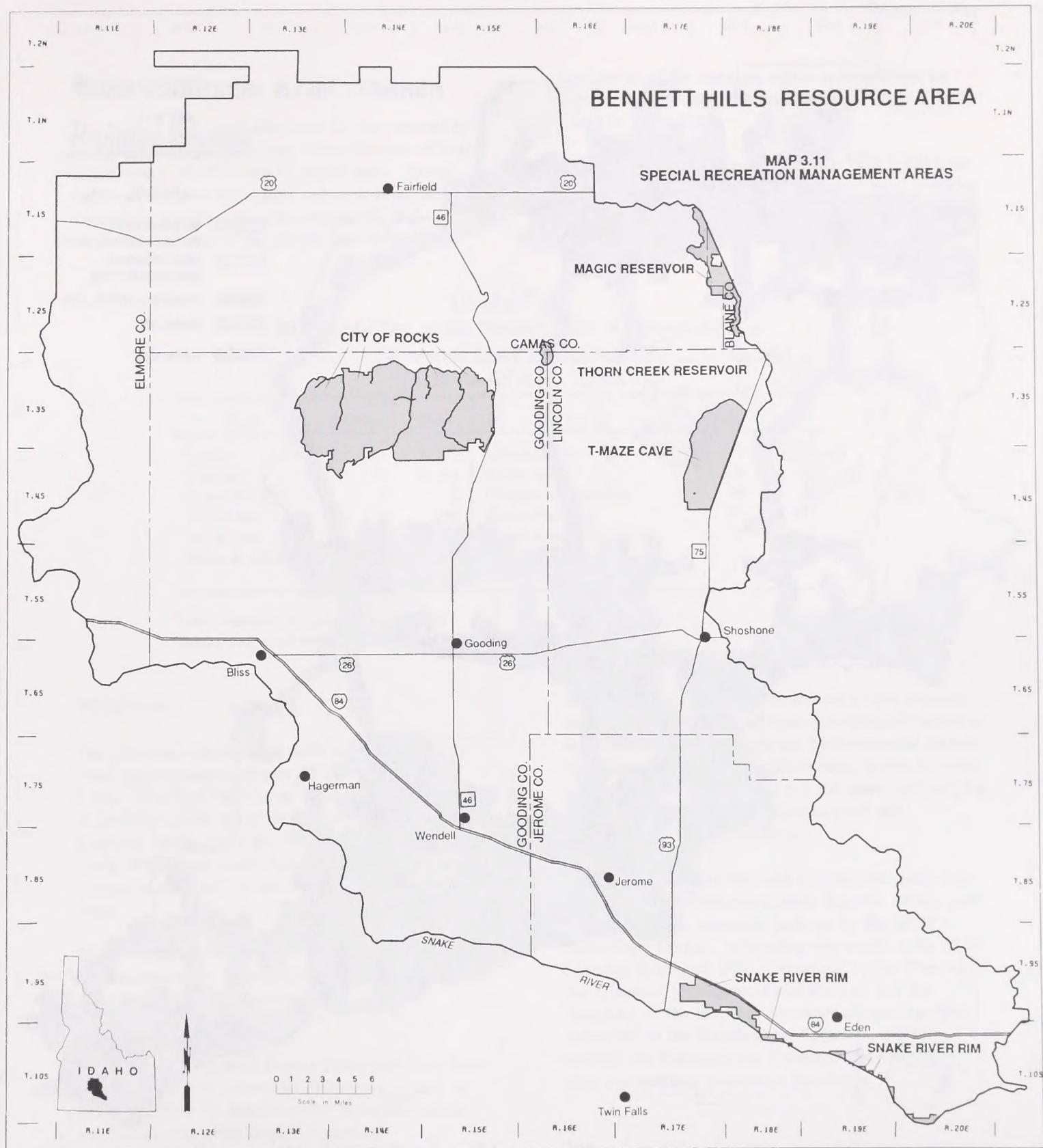
TABLE 3.27  
 Bennett Hills Annual  
 Recreation Visitor Hours<sup>1/</sup>  
 Bureau of Land Management  
 Shoshone District, Idaho

Recreation Management Area	ORV	Other Motorized	Non-Motorized	Camping	Hunting	Other Land Based	Winter Sports	Snowmobiling	Fishing	Boating	Other Water Based
City of Rocks Special Recreation Management Area	200	0	4,200	600	1,600	1,500	300	200	0	0	0
Magic Reservoir Special Recreation Management Area	7,500	6,000	2,500	120,000	9,600	0	1,400	400	132,000	52,800	2,000
Thorn Creek Special Recreation Management Area	200	500	500	5,400	1,600	0	0	200	10,000	600	0
Snake River Rim Special Recreation Management Area	37,500	500	200	0	7,200	1,000	300	400	28,000	300	900
Bennett Hills Extensive Recreation Management Area	7,900	200	3,200	23,100	132,800	1,600	6,300	16,800	100,000	3,200	3,200
Total Hours	53,500	7,200	10,600	149,100	152,800	4,100	8,300	18,000	270,000	56,900	6,100
Visitor Days <sup>2/</sup>	4,400	600	900	12,400	12,700	300	700	1,500	22,500	4,700	500

1/  
 Numbers are rounded to the nearest hundred.  
 One visitor day is equivalent to twelve visitor hours.

Sources:  
 Shoshone District BLM, Recreation Management Information System, 1991  
 Region IV, Idaho Department of Fish and Game, 1991

2/



R. 11 E. R. 12 E. R. 13 E. R. 14 E. R. 15 E. R. 16 E. R. 17 E. R. 18 E. R. 19 E. R. 20 E.

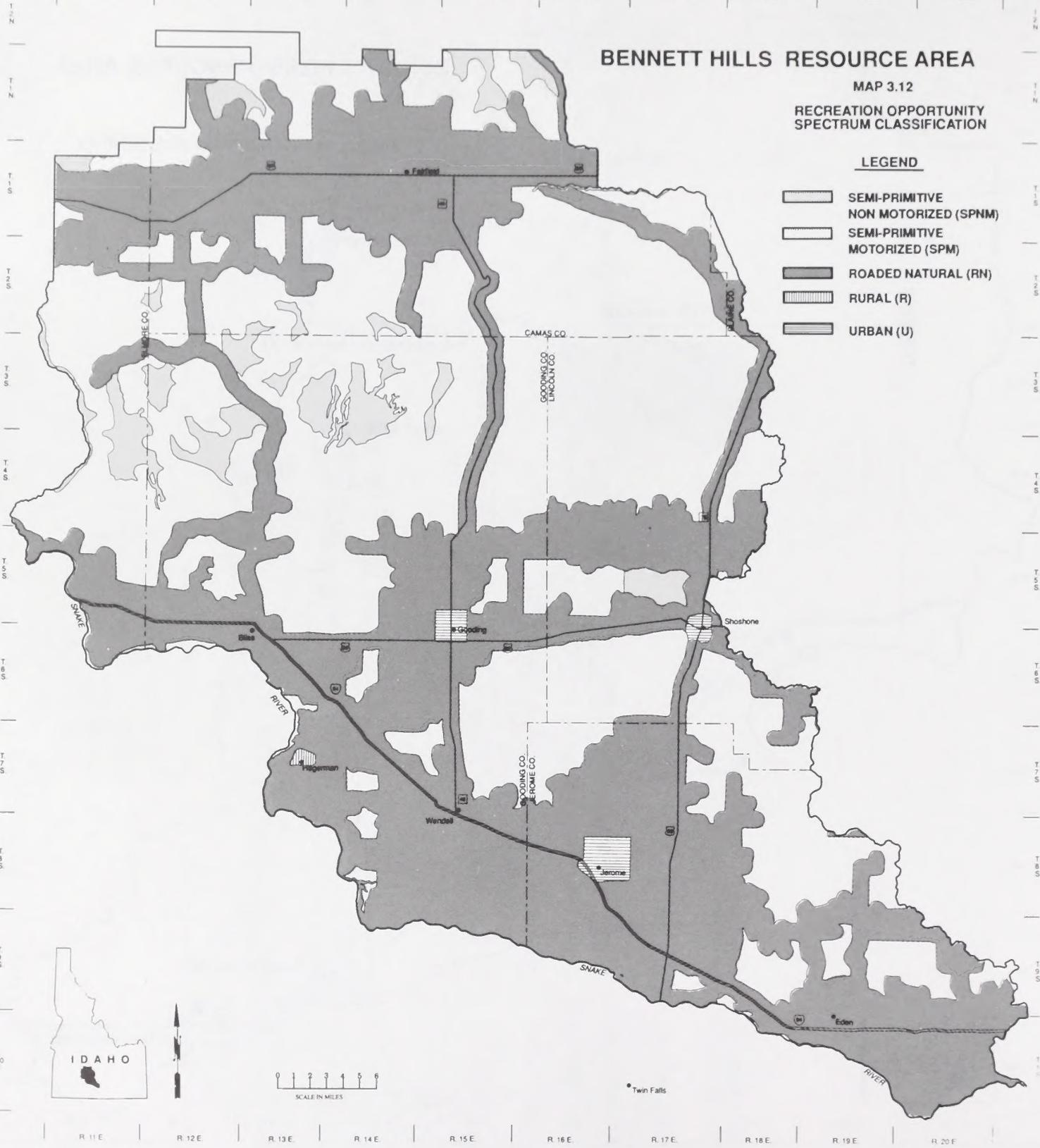
## BENNETT HILLS RESOURCE AREA

MAP 3.12

### RECREATION OPPORTUNITY SPECTRUM CLASSIFICATION

#### LEGEND

- SEMI-PRIMITIVE  
NON MOTORIZED (SPNM)
- SEMI-PRIMITIVE  
MOTORIZED (SPM)
- ROADED NATURAL (RN)
- RURAL (R)
- URBAN (U)



R. 11 E. R. 12 E. R. 13 E. R. 14 E. R. 15 E. R. 16 E. R. 17 E. R. 18 E. R. 19 E. R. 20 E.

## Rights-of-Way

The Bennett Hills Resource Area is criss-crossed by no less than 363 right-of-way authorizations of record encumbering 32,074 acres of public land. These rights-of-way provide critical infrastructures that support the commercial, noncommercial, and residential systems of the private land within the

boundaries of the resource area. A breakdown by type of right-of-way with number and acreage can be found in Table 3.28.

Sixty-eight miles of access road (see Map 3.13) have been identified to be acquired to ensure legal public access to public land. The BLM has legal access across 4.21 miles of private land.

**TABLE 3.28**  
**Rights-of-Way in the Bennett Hills Resource Area**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Type	Number	Acres	Type	Number	Acres
Roads	91	6,373	Material Sites	49	2,887
Railroad	12	4,191	Power lines	69	4,628
Power Facility	2	2	Communications Site	35	45
Telephone	19	246	Water Facilities	67	13,497
Oil & Gas	5	175	Forest Service Easement	2	1
Misc. & Others	12	29			

Total Number of Rights-of-way = 363

Total Number of Acres Encumbered by rights-of-way = 32,074

## Wilderness

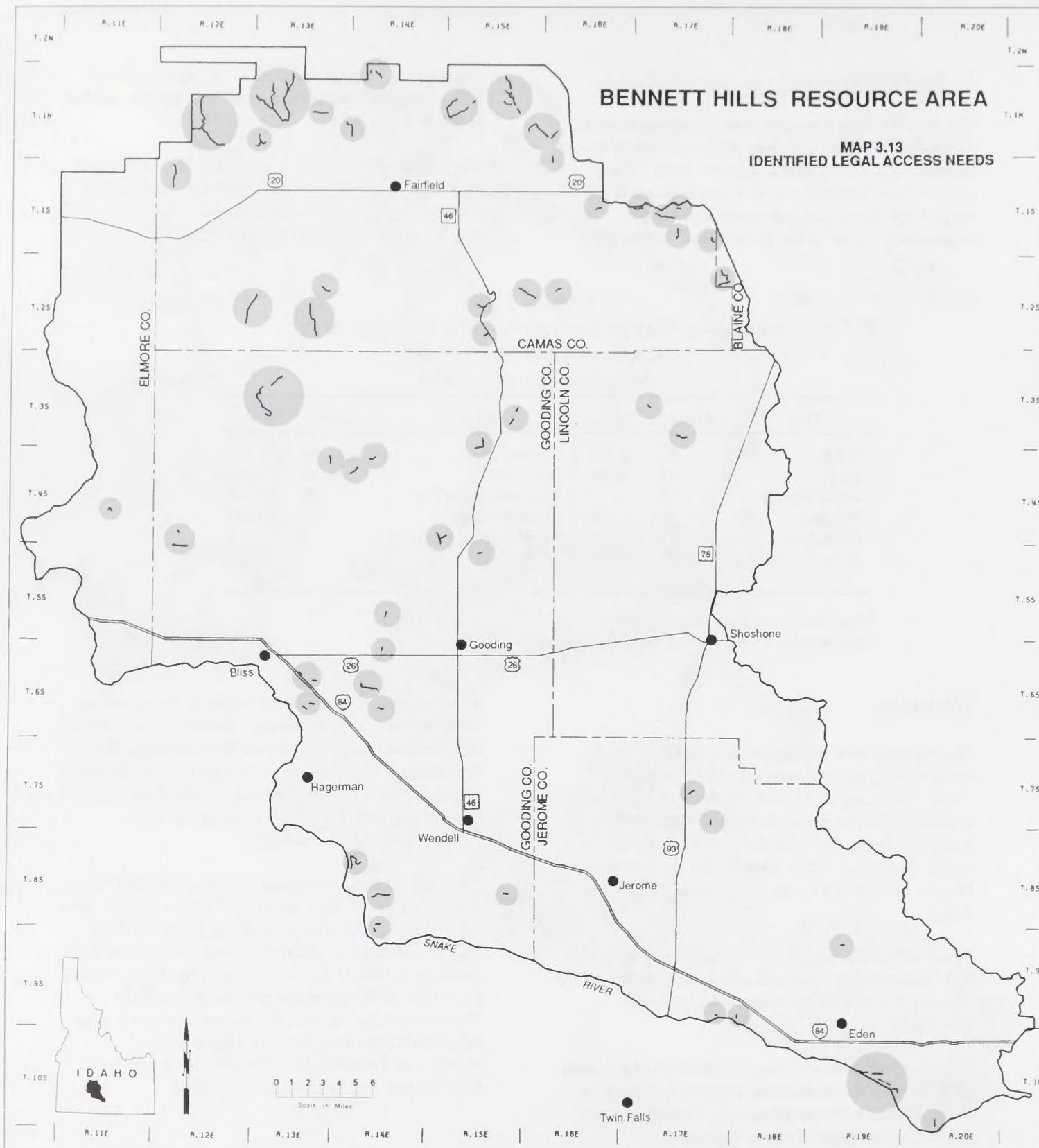
The planning area contains eight wilderness study areas totaling approximately 85,054 acres (Map 3.14). The King Hill Creek Wilderness Study Area is partially within the BLM's Boise District, Jarbidge Resource Area. Only the portion of the King Hill Creek Wilderness Study Area within the Shoshone District is managed by the Bennett Hills Resource Area.

These wilderness study areas have been studied for their suitability or nonsuitability as wilderness in four separate Wilderness Environmental Impact Statements.

All four Environmental Impact Statements have been filed with the Environmental Protection Agency as *Final*. Table 3.29 describes each wilderness study area's Environmental Impact Statement recommendation. Because the BLM's current

mapping system allows more accuracy than previous methods, there may be acreage discrepancies between this document and the separate Environmental Impact Statements. This acreage discrepancy is due to more accurate measurements, and not the result of changing boundaries from those already analyzed and recommended to the President.

The final documents required to complete wilderness studies are the Wilderness Study Reports, which were combined into a statewide package by the BLM's Idaho State Office. A briefing was made to the BLM Director in July of 1990. Approval by the Director, the Office of Management and Budget, and the Secretary of the Interior, the statewide package was submitted to the President on August 9, 1991. Neither the President nor Congress has a mandated time for enacting wilderness legislation.



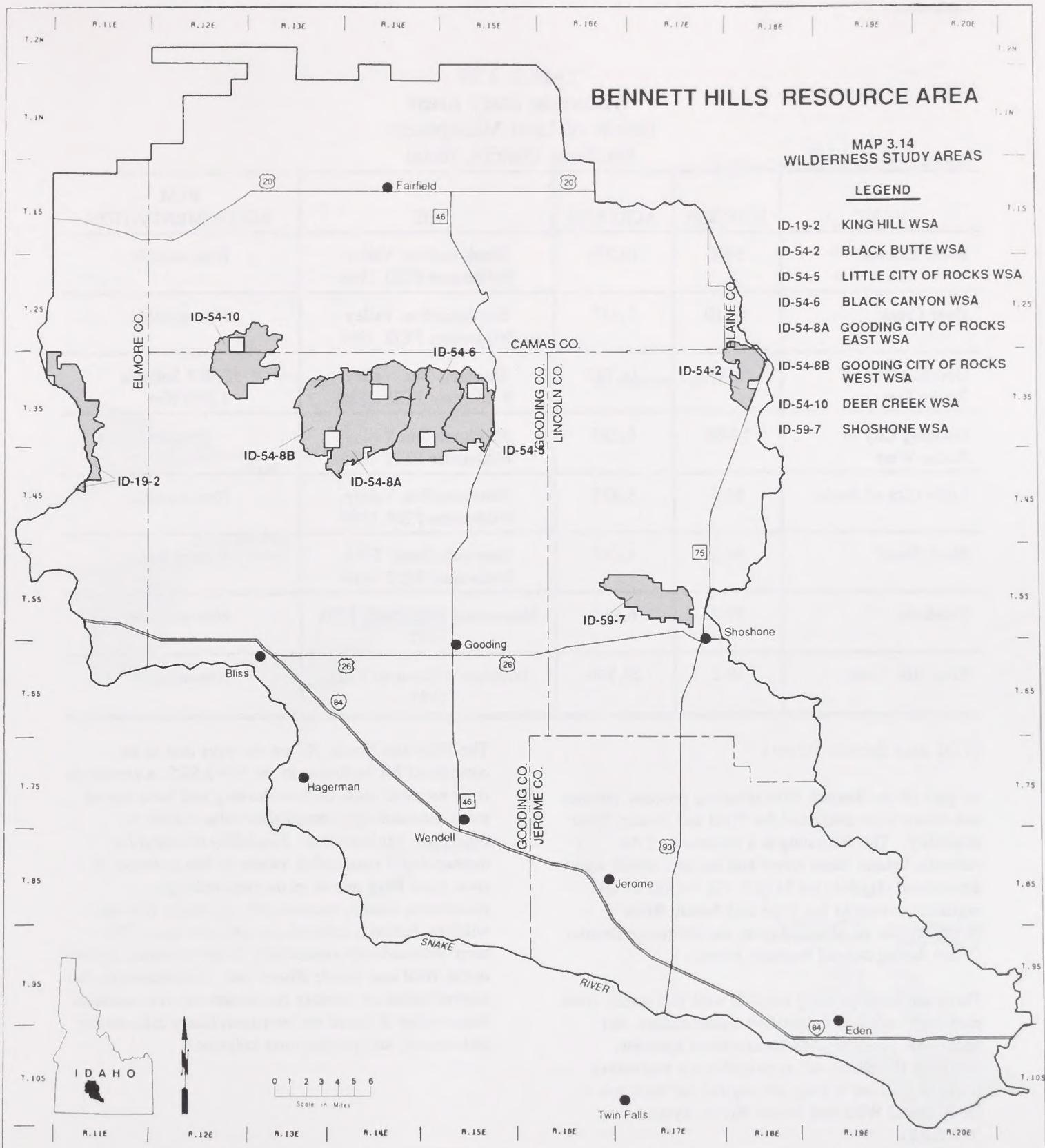


TABLE 3.29  
Wilderness Study Areas  
Bureau of Land Management  
Shoshone District, Idaho

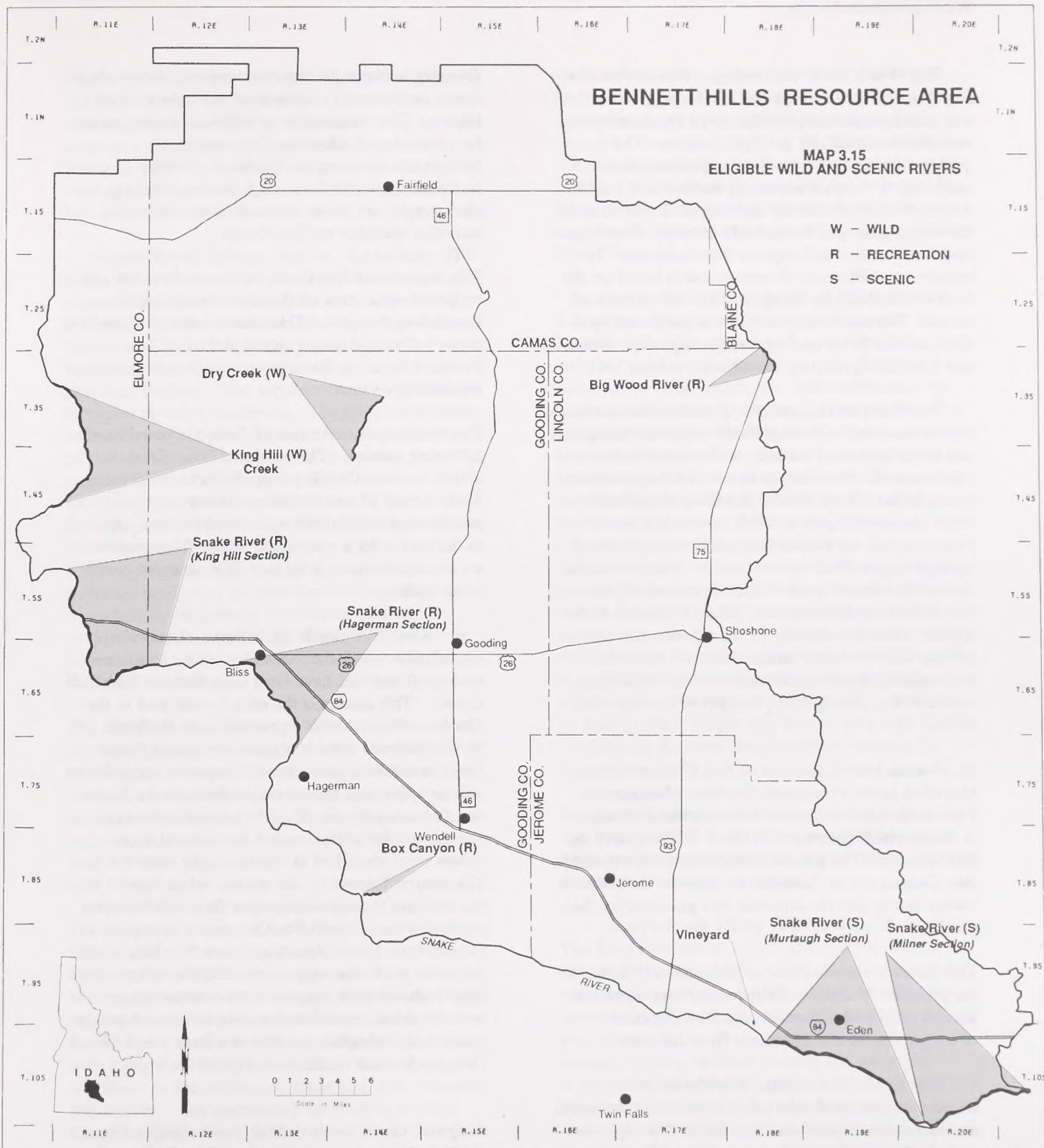
NAME	NUMBER	ACREAGE	EIS	BLM RECOMMENDATION
Black Canyon	54-6	10,371	Shoshone/Sun Valley Wilderness FEIS 1986	Non-suitable
Deer Creek	54-10	7,487	Shoshone/Sun Valley Wilderness FEIS 1986	Non-suitable
Gooding City of Rocks East	54-8A	14,743	Shoshone/Sun Valley Wilderness FEIS 1986	13,063 Suitable 1,680 Not
Gooding City of Rocks West	54-8B	6,287	Shoshone/Sun Valley Wilderness FEIS 1986	Suitable
Little City of Rocks	54-5	5,875	Shoshone/Sun Valley Wilderness FEIS 1986	Non-suitable
Black Butte	54-2	4,068	Statewide Small WSA Wilderness FEIS 1989	Non-suitable
Shoshone	59-7	6,914	Monument Wilderness FEIS 1987	Non-suitable
King Hill Creek	19-2	29,309	Jarbidge Wilderness FEIS 1987	Non-suitable

### Wild and Scenic Rivers

As part of the Bennett Hills planning process, streams and rivers were evaluated for Wild and Scenic River eligibility. The following is a summary of the rationale behind those rivers and streams which were determined eligible (see Map 3.15). A list of all segments evaluated for Wild and Scenic River eligibility can be obtained from the Shoshone District Office during normal business hours.

There are three primary steps in wild and scenic river planning: eligibility, tentative classification, and suitability. Federal land management agencies, including the BLM, are responsible for evaluating rivers to find out if they are eligible for inclusion in the National Wild and Scenic Rivers System (NW&RS).

The *Wild and Scenic Rivers Act* says that to be considered for inclusion in the NW&RS, a stream or river segment must be free-flowing and have one or more outstandingly remarkable value within its immediate environment. Eligibility criterion for outstandingly remarkable values is that a stream or river must have one or more outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or similar value. The term *outstandingly remarkable* is not precisely defined in the *Wild and Scenic Rivers Act*. Consequently, the determination of whether the stream or river contains these values is based on interdisciplinary information and review, and professional judgment.



**Big Wood River (2.1 miles).** This section of the Big Wood River (see Appendix D for map of section) was recommended eligible due to its *outstandingly remarkable* scenic and geologic features. The geologic features of volcanism and erosion have combined to form an intricately carved river canyon. A unique characteristic of this canyon is that most of the scenic quality is visible only after the river water has been diverted and exposes these qualities. The tentative classification of recreational is based on the level of development along the river and amount of access. The entire river corridor is paralleled by a dirt road and is crossed by a major highway. Houses and outbuildings occupy the adjacent private land.

**Box Canyon (1.2 miles).** Box Canyon contains several *outstandingly remarkable values* including fish and wildlife, natural features, and recreational opportunities. Box Canyon is the 11th largest natural spring in the United States, providing exceptional water clarity and quality. This stream is also a known habitat for two endangered species (Banbury Springs limpet, Utah valvata snail). It is also habitat for one threatened species (Bliss Rapids snail) and two federal candidate species (Giant Columbia River limpet, Shoshone sculpin). Other species present include rainbow trout, tundra swan and mule deer. Recreational opportunities available include fishing, nature study, photography, waterfowl hunting, and hiking.

BLM-administered portions of Box Canyon were identified in the Monument Resource Management Plan as an Area of Critical Environmental Concern. A management plan was written in 1985 to carry out this decision. The general management objectives for Box Canyon are to "maintain or enhance the resource values and to provide direction and guidance for their protection."

The tentative classification of "recreational" is due to the presence of a water diversion partway down the stream. BLM-administered land is minimal and part of the private land is accessible by a dirt road.

**Dry Creek (4.6 miles).** Dry Creek has *outstandingly remarkable values* for scenic, ecological and recreational qualities. Dry Creek is a vegetative oasis in the middle of a desert canyon. The great

diversity between the riparian zone and surrounding desert environment results in an exemplary visual feature. This stream also provides an ecological base for research and educational opportunities. Interpretation, nature study, canyon hiking, backpacking, wildlife viewing, fishing, hunting, and photography are some outstanding recreational activities available on Dry Creek.

This segment of Dry Creek has been identified and proposed as an Area of Critical Environmental Concern in this plan. This decision would amend the current allotment management plan to exclude livestock from the drainage and set up a vegetation monitoring system.

The tentative classification of "wild" is based on the following reasons. This section of Dry Creek is within the East Gooding City of Rocks Wilderness Study Area. The surrounding environment is a primitive area with little or no modification. Access to the area is by a rough four-wheel-drive road and access into the area is by foot only on unimproved game trails.

**King Hill Creek (10 miles).** *Outstandingly remarkable values* for fish and wildlife, scenic and ecological qualities have been identified for King Hill Creek. This stream is the only known area in the Shoshone District with a pure strain of Redband trout. Redband trout is a sensitive species that is listed as a federal candidate (C2) species and a BLM sensitive species. Before major dams on the Snake and Columbia Rivers, King Hill Creek potentially was habitat for anadromous fish. Several scenic values were identified as outstandingly remarkable. The canyon formed by the stream, when viewed from the rim, has the appearance of a "big river" canyon much like the Snake River Canyon. The upper canyon from rim to stream averages 250 feet, while the lower portion averages over 500 feet deep. The sagebrush and rock canyon walls contrast sharply with the thick vegetation along the stream. Another scenic and ecological anomaly is a large stand of Douglas-fir trees on the west side of the upper canyon.

King Hill Creek has tentatively been classified as "wild." Most of this section is within the King Hill

Wilderness Study Area and is in a primitive state. The only sign of development is a power line crossing which is visible only along the very lower portion of the canyon. Access to the canyon is by foot only with no established trails. Vehicle access (a very rough four-wheel-drive road) comes to within a half mile of the rim.

**Snake River (Milner Section, 8.5 miles).** The Snake River canyon is a nationally known river canyon and attracts visitors from across the United States. The Milner section is the beginning of this famous canyon. *Outstandingly remarkable values* have been identified for scenic, recreational and historical features. The upper canyon is shallow and increases in size downstream. The river environment below the rim remains relatively unchanged for most of this section of river and visually isolated from the rural/agricultural development above the rim.

Cauldron Linn provides views of one of the remaining undeveloped waterfalls on the Snake River. The Star Falls-Cauldron Linn area is listed on the National Register of Historic Places. When water flows are sufficient, the first two-mile stretch is an outstandingly remarkable whitewater boating opportunity with many Class V rapids. Whitewater boaters from many western states are known to use the Milner section.

The tentative classification of "scenic" is due to the relatively natural condition below the rim, of most of this stretch. The half-mile river corridor also includes an area above the rim that is heavily developed agricultural land. There is also an undeveloped recreation site at Star Falls with dirt road access.

**Snake River (Murtaugh Section, 13 miles).** The Murtaugh section of the Snake River begins at the end of the Milner Section. Many of the same features of the Milner are also present on the Murtaugh Section. The Murtaugh stretch is a deeper canyon than the Milner and with even less access. Scenic views from within the canyon provide visitors with a genuine feeling of isolation. Views from the rim illustrate the power and force of a river to create this canyon. The opportunity for boating exciting Class V whitewater on a "big water" river warrants an *outstandingly remarkable value*.

Access within the canyon is extremely limited and serves to keep the river and canyon largely undeveloped and in a primitive condition. The canyon is crossed by Highway 50 (Hansen bridge) and is a major view point for tourists and sightseers. The land within the river corridor above the rim has many private homes and a main road paralleling the canyon. For these reasons the tentative classification is as a "scenic" river.

**Snake River (Hagerman or Wiley Section, 7.2 miles).** *Outstandingly remarkable values* have been identified for recreational, geologic, fish and wildlife, and historical qualities. The Hagerman reach of the Snake River is a well known and well used recreational section by regional residents. Due to fairly constant water flow levels, there is much late summer, fall and winter use and some spring and summer use. This stretch provides excellent opportunities for Class II whitewater for rafters, kayakers and canoers. Another recreational opportunity with high value is fishing. The Hagerman reach is home to both brown and rainbow trout as well as sturgeon. Evidence of the volcanic and erosional forces that formed this canyon is visible along many portions of this stretch. The proximity to the Hagerman Fossil Beds National Monument leads to a potential for international paleontological significance. The only structure in Idaho, designed by Frank Lloyd Wright and located on a high bluff overlooking the river, lent historical value to the Hagerman stretch.

The tentative classification as a "recreational" river was influenced by the high degree of development. There are many private homes and access roads along this reach. Also, access roads.

**Snake River (King Hill Section, 12.8 miles).** The King Hill section of the Snake River affords *outstandingly remarkable values* of recreation, fish, wildlife, and geologic qualities. Opportunities for many different water related recreational activities are available on the reach. Some of these include boating, fishing, wildlife viewing and nature study. A unique visual and geologic feature of this section is the presence of several large sand dunes that rise above the rock cliffs from the river benches. One of the major self-sustaining sturgeon populations in

Idaho exists within the section. There is also a great diversity of waterfowl and raptors present. These include great blue heron, white pelican, mallards, gulls, great horned owls, redtail hawks and possibly wintering bald eagles.

The tentative classification for the King Hill section is "recreational" river. This classification is based on the proximity of many roads, railroad lines, an old irrigation canal, and Interstate 84 crossing. The level of development of visible structures along this section is low and can lead to a feeling of isolation.

**Vineyard Lake (0.5 miles).** Vineyard Lake has *outstandingly remarkable* scenic and ecological values. Although there is some evidence of past use in the area, this stream has been allowed to return and recover to a natural state. Visitors to the stream are afforded visual diversity of a spring-fed lake and stream, many cascading waterfalls, and steep cliff canyon walls all contained within a small "boxed" canyon next to the Snake River. Around the springs area of Vineyard Lake grows the Giant Helleborine, a BLM sensitive species (Table 3.19). Vineyard Creek also contains spawning habitat for a unique strain of fall-spawning hybrid rainbow cutthroat trout.

Vineyard Lake was identified and designated as an Area of Critical Environmental Concern in the Monument Resource Management Plan. Management objectives for this area are to protect and maintain the qualities for which it was designated. These values include the scenic and geologic values and the aquatic habitat of the stream.

The tentative classification for Vineyard Lake is "scenic." This determination is based on a combination of factors. The canyon is in a relatively natural state. However, there is evidence of past use (site of a Chinese mining community and existence of a United States Geological Survey gaging station located on the lower reach of the stream). Access within the canyon is by foot only. A dirt road, on federal land, leads to the rim of the canyon and is a popular local hangout. There is also access by boat to the mouth of the creek from the Snake River.

## Leasable Minerals

To date, there has been no oil and gas production in the Shoshone District. No exploratory drilling is currently occurring. Drilling activity and other exploration has occurred sporadically since the early 1900's in Idaho. Much of Idaho is covered by the Idaho batholith, Precambrian metamorphic rocks, and extensive volcanic complexes that offer little chance for the discovery of petroleum resources. Other areas, such as much of the Bennett Hills Resource Area, are obscured by a mantle of volcanic rocks that conceal geologic characteristics of the subsurface, making predictions of petroleum potential difficult.

No exploratory wells for oil and gas have been drilled in the resource area. The nearest wells are located west of the resource area near King Hill.

While thrust faults could provide trapping structures, evidence suggests that Paleozoic rock, 10 miles north of the resource area near Hailey and Bellevue, are too thermally mature to contain significant hydrocarbons (Harris and others, 1980). Without favorable marine sedimentary rocks, the potential for oil and gas is mainly associated within the Tertiary nonmarine sedimentary sequences. The occurrence of oil and gas in nonmarine rocks is possible as in parts of Nevada, Utah, Colorado, and Wyoming.

## Geothermal Resources

In the planning area there are about 10 thermal springs and 14 thermal wells. Geothermal springs and wells within the planning area are grouped into four areas. From north to south they are the Camas Prairie area, the Clover Creek-Bennett Hills area, the King Hill area, and the Banbury-Snake River area. The highest recorded surface temperatures of any spring or well in the planning area is 75°C or 167°F.

## Locatable Minerals

Both metallic and nonmetallic minerals are within the planning area.

**Metallic Minerals:** The only known metallic mineral deposits in the Bennett Hills Resource Area are in and along the Snake River, and in the mining districts in the northern part of the planning area. Gold is in low concentrations in the alluvial deposits along almost the entire length of the Snake River (Hill, 1915). Sporadic placer operations occurred next to the River beginning in the early 1870s and continuing into the 1930s. No major operations are known to have been successful, although some gold was undoubtedly profitably removed. It is most likely that any profitable concentrations have long since been worked out. What remains today is very fine flour gold. There are several prospects for gold (Stroud, 1981) and seven claims (BLM records), which may be for gold or for sand and gravel, on the Snake River within the planning area. There are currently no operations on the Snake River within the planning area that economically recover gold.

The Volcano mining district is in the northwestern part of the area and the Soldier and Willow Creek mining districts are in the northeastern part of the planning area. These three districts have prospects for gold, silver, lead, zinc, and copper (Hustedde, 1981). These minerals are found in veins and lodes that intrude the granite of the Idaho batholith (Fernette, 1983). The Volcano district has a small number of prospects for gold, silver, lead, zinc, and copper and six mining claims within the area. The Soldier district also has a small number of gold prospects and seven mining claims, while the Willow Creek district has no prospects and 28 mining claims that lie within the planning area.

**Non-metallic Minerals:** The non-metallic locatable mineral with significant deposits in the planning area is diatomite. Diatomite is in the Banbury basalt unit, which is a sequence of basalt flows and interbedded stream and lake deposits in which the diatomite exists (Malde, 1963). Much of this diatomite is relatively impure, beige in color, and contains mostly fragmented diatoms. Several diatomite deposits in the region were sampled by Powers (1947). Powers concluded that several deposits were not suitable for commercial use. Some deposits were suitable for normal commercial uses, e.g., as insulation, adsorbents, fillers, and concrete admixtures. All the deposits had zero to low filter

media value. Skinner et al. (1944) evaluated the filter characteristics of three of these deposits and concluded that they were of low value as a filter media.

Twelve mining claims are located around Black Butte Crater for building stone.

### Salable Minerals

Three types of salable minerals are within the planning area.

**Building Stone:** Outcroppings of lava rock are common throughout most of the planning area. Although this rock is suitable for construction purposes, and served that purpose before the advent of reinforced concrete and lightweight aggregate blocks, its future use will be limited to decorative or other special purposes. Community pits have been established at Black Butte Crater and on the Black Butte flow about seven miles northwest of Shoshone. Flat stone, three inches thick or less, is hand picked off the surface and put in pickup trucks. The textured, weathered look, and growth of lichens make this stone popular as a decorative veneer stone.

**Sand and Gravel:** The planning area contains abundant low grade deposits of sand and gravel. The primary influencing factors for the location of the pits are ease of access and proximity to market. Therefore, many pits are located alongside roads. There is a concentration of sand and gravel pits on the public land in the southeast portion of the area. This is presumably an area of relatively deep loess soil deposited on the basalt.

### Potential for the Occurrence of Mineral Resources

The potential for mineral resources is a prediction of the likelihood of these resources. The existence of a mineral resource does not necessarily imply that the mineral can be economically exploited or is likely to be developed; mineral potential includes both exploitable and potentially exploitable occurrences. The potential of a mineral resource also does not

## Salable Minerals

imply that the quality and quantity of the resource are known.

The mineral resources in the planning area that have a greater than low potentials are metallic minerals, diatomite, building stone, sand and gravel, and geothermal. All other minerals are considered to have low potential based on limited direct evidence. The lack of active or historic mines and prospects for minerals other than those listed above, suggests that there are no known economic deposits in the planning area. The geologic environment does not suggest favorable conditions for the discovery of an economic deposit of other minerals. Most of the area is covered with basalt flows not known to host other mineral deposits.

## Fire Management and History

The Shoshone District Fire Management organization protects approximately 660,000 acres of public land in the Bennett Hills Resource Area. The district has a high occurrence of human and lightning caused fires. The fire problem is further increased by the fine fuels, dry climate, and rough terrain.

Consequently, wildland fires significantly impact the Bennett Hills Resource Area. Large fires significantly alter the existing ecosystem and remove large blocks of wildlife habitat. Wild fires directly endanger homes, buildings, crops, livestock, and human life. Wild fire effects may let non-preferred plant communities invade an area, expose soils to wind and water erosion, and decrease recreation values.

Over the last 22 years the Bennett Hills Resource Area has averaged 43 fires a year with an average size of 290 acres per fire. (See Table 3.30). By excluding the two excessively high and low years, the average number of acres burned each year is 8,156. The number of fires attributed to human activities has averaged 41 fires per year, or 0.0001 human-caused fires per visitor hour of use within the planning area.

TABLE 3.30  
Fires by Year, Number, and Acres  
in the Bennett Hills Resource Area  
Bureau of Land Management  
Shoshone District, Idaho

Year	Number of Fires	Acres Burned
1992	49	5,307
1991	33	1,284
1990	24	73,083
1989	33	4,860
1988	32	6,065
1987	26	2,600
1986	25	1,612
1985	23	2,391
1984	52	8,027
1983	61	18,596
1982	34	8,700
1981	46	17,716
1980	44	7,994
1979	52	10,666
1978	24	687
1977	19	1,732
1976	77	1,436
1975	45	14,180
1974	39	1,579
1973	88	29,895
1972	33	3,451
1971	97	56,095
TOTAL	956	277,956

Source: Shoshone District fire reports

## Social and Economic Conditions

The profile area surrounding the Bennett Hills planning area is highly diverse containing four counties in south-central Idaho (Table 3.31). There are 11 incorporated cities in the area, with populations that range from under 200 to over 6,000.

TABLE 3.31  
 Population By Community and By County  
 Bureau of Land Management  
 Shoshone District, Idaho

Community/County	Population	Percent
Camas	600	2
Gooding	11,500	38
Jerome	14,600	49
Lincoln	3,200	11
<b>TOTAL</b>	<b>29,900</b>	<b>100</b>

Source: County Profiles of Idaho, Idaho Department of Commerce, Economic Development Division, 1989.

**Earnings:** Total earnings in the four-county area in 1988 were \$205.6 million (Bureau of Economic Analysis). This consisted of \$149 million in nonfarm earnings and \$56.6 million in farm earnings.

This level of 1988 nonfarm earnings represents a 21 percent increase since 1983. After adjusting for the effects of inflation (using the implicit GNP price deflator) this becomes an increase of 3.0 percent in

real dollars. The 1988 farm earnings represented a 27 percent increase since 1983. This becomes an 7.8 percent increase after adjusting for inflation.

Within the four-county area the farm portion of the economy is the largest (in terms of earnings), followed by federal, state and local government, transportation, and services (see Table 3.32).

**Employment:** Total employment in the four-county area in 1987 was 14,687 (County Profiles of Idaho, 1989). This consisted of 3,794 farm jobs and 10,893 nonfarm jobs.

The level of 1987 farm employments represents a 4.2 percent decrease since 1983. The 1987 nonfarm employment level represents a 4.6 percent increase since 1983.

Within the four-county area the farm portion of the economy is the largest (in terms of employment) followed by services, federal, state and local government, and retail trade (see Table 3.33).

TABLE 3.32  
Earnings By Industry and Place of Work, 1988  
Bureau of Land Management  
Shoshone District, Idaho

Earnings By Industry	County				
	Camas	Gooding	Jerome	Lincoln	Total
	(Thousands of Dollars)				
Farm	\$ 4,308	\$20,097	\$19,666	\$12,507	\$ 56,578
Nonfarm	4,066	55,065	73,164	16,680	148,975
Private	2,489	42,412	62,450	8,493	115,844
Ag Services	85	1,919	3,413	580	5,997
Mining	(L)	(L)	52	(L)	52
Construction	126	5,155	5,207	276	10,764
Manufacturing	(D)	5,329	15,629	3,406	24,364
Durable	0	243	156	(D)	399
Nondurable	(D)	5,086	15,473	(D)	20,559
Transportation	477	10,251	10,548	1,876	23,152
Wholesale Trade	(D)	3,209	5,704	162	9,075
Retail Trade	459	5,531	8,509	679	15,178
Finance	(D)	1,701	1,327	338	3,366
Services	511	9,275	12,062	1,136	22,984
Government	1,577	12,653	10,714	8,187	33,131
Federal Civilian	540	1,798	1,294	2,635	6,267
Federal Military	(L)	388	490	107	985
State and Local	1,016	10,467	8,568	5,445	25,496
Total	\$ 8,374	\$75,162	\$92,830	\$29,187	\$205,553

(D) Not shown to avoid disclosure of confidential material.

(L) Less than \$50,000

Source: US Department of Commerce, Bureau of Economic Analysis, Local Area Personal Income 1983-88, Volume 5, Washington DC, July 1990.

TABLE 3.33  
Employment by Industry and Place of Work, 1987  
Bureau of Land Management  
Shoshone District, Idaho

Employment by Industry	County				
	Camas	Gooding	Jerome	Lincoln	Total
Farm	205	1,306	1,582	701	3,794
Ag Services	11	184	411	68	674
Mining	0	(L)	(L)	(L)	0
Construction	(L)	263	290	42	595
Manufacturing	17	308	1,070	104	1,499
Transportation	12	385	373	92	862
Wholesale Trade	(D)	231	317	39	587
Retail Trade	58	621	768	151	1,598
Finance	(D)	354	279	48	681
Services	57	763	1,309	99	2,228
Federal Civilian	20	68	50	96	234
Federal Military	(L)	65	82	18	165
State and Local	68	720	584	348	1,720
Total	482	5,270	7,124	1,811	14,687

(D) Not shown to avoid disclosure of confidential material.

(L) Less than 10

Source: County Profiles of Idaho, Idaho Department of Commerce, Economic Development Division, 1989.

**Multipliers:** When changes occur in one sector of a local economy, changes also occur in other sectors. This is due to the interrelated nature of the economy. These changes are measured by multipliers. The multiplier is a single number that summarizes the total direct and indirect spending effects of a given change in the local economy. The output multipliers for the region containing the Bennett Hills Resource Area show that greatest

changes would occur in other wholesale trade, other meat animal products, and the milk and milk byproducts sectors. Besides multipliers, output must be converted to earnings to estimate economic impact. This is done by earnings to gross output ratios. These ratios have been calculated based on U.S. Water Resources Council procedures and are shown in the appendix.

**Livestock Industry:** In 1987 the cash receipts from marketing of meat animals (primarily cattle and calves, sheep and lambs) accounted for 68 percent of total farm cash receipts. This varied by county from a low of 48 percent in Camas County to a high of 74 percent in Gooding County. If farm earnings are in the same proportion as cash receipts, total earnings from meat animals in the four-county area would be 68 percent of total farm earnings, or \$38.5 million in 1988.

The 1987 Census of Agriculture showed that there are approximately 194,633 beef cattle and calves and 43,288 sheep and lambs in the four-county planning area. This would be 203,291 animal units. This means that each animal unit generates earnings of \$190.

The permittees in the Bennett Hills planning area have a total herd size of 23,045 cattle and 26,660 sheep. This would be 28,377 animal units that would generate earnings of \$5,391,630. This would be 14 percent of the total four-county meat animal earnings and 9.5 percent of total farm earnings.

Currently, the total Shoshone BLM active use (Animal Unit Months) in the four-county area is 55,688. This would support 4,641 animal units which would generate earnings of \$881,790. This would be 16.3 percent of permittee earnings, 2.3 percent of four-county area meat animal earnings, and 1.6 percent of total farm earnings.

It is also assumed that 68 percent of total farm employment in the planning area is meat animal related (based on the relationship between receipts and earnings discussed above). This means that total meat animal employment would be 2,580 (wage and salary only). Employment is assumed to be in the same percentages as earnings for permittees and BLM-AUM related employment. Table 3.34 shows the earnings and employment statistics for livestock in the planning area.

As early as 1925 it was recognized that the annual value of the federal grazing privilege was being capitalized into rancher property. "It is argued that long use of the range in connection with the early settlement of agricultural lands has resulted in

capitalizing the values of public pasture as part of the value of the ranch..." (USDA 1925).

A report published by the Utah State University Experiment Station stated: "There was nothing illegal or unethical in the fact that grazing permits took on value; ranchers just reacted to an economic situation that was created by government policy. Permit values rose because ranchers who have grazing permits were capturing economic rents in the form of low-cost grazing; i.e., the grazing fees, and recognized non-fee costs did not equal the value of the grazing to ranches. Thus, the authorization to use the federal lands and the associated economic rents were capitalized into rancher-owned assets. This value could show up either as a permit value or as an increased value of the commensurate property." (Nielsen and Workman 1972.)

The BLM's position on permit values is based on very explicit language in Section 3 of the *Taylor Grazing Act* of 1934 that states: "So far as consistent with the purposes and provisions of this Act, grazing privileges recognized and acknowledged shall be adequately safeguarded, but the creation of a grazing district or the issuance of a permit pursuant to the provisions of this Act shall not create any right, title, interest, or state on or to the lands." Thus, any capitalized value associated with grazing permits has no legal basis, and as a result a rancher has no compensation for loss of this value.

Magazine articles and research results have often been in conflict on the subject of permit values. Nevada rancher, Dean Rhodes, in an article in the New West Magazine said that "the forage right for a single cow on the public range now sells for anywhere from \$1500 to \$3000 in the Elko area." (Boly 1980.) A survey done in New Mexico for ranch appraisers and credit officers placed the value of Forest Service permits at between \$944 and \$1163 per animal unit, depending on area in New Mexico. BLM values varied from \$677 to \$888. (Fowler and Gray 1980.) On the other hand, a study in eastern Oregon found "the inclusion of public grazing privileges were found to have no significant impact on the level of private grazing land sale prices." (Winter and Whittaker 1979)

**TABLE 3.34**  
**Earnings and Employment**  
**Livestock Industry**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Category	Earnings	% of Total Farm	Employment	% of Total Farm
Total Farm	\$ 56.6 million	100.0	3,794	100.0
Meat Animal	\$ 38.5 million	68.0	2,580	68.0
Permittee	\$ 5.4 million	9.5	360	9.5
BLM-AUMs	\$ 0.9 million	1.6	61	1.6

**Crops:** The 1988 four-county farm income resulting from the raising of crops is estimated at \$18.1 million. This is based on the assumption that crop income is the same proportion of farm income as crop receipts are of total farm receipts. The total value of 1988 crop receipts was 32% of total agricultural receipts.

**Recreation:** Expenditures in the recreational activities of the region primarily impact the retail trade and services sectors of the local economy. The 1980 Survey of Hunting and Fishing data (USFW, 1980) suggests that in destination-type expenditures (meals, lodging, transportation, ammunition, land use fees, etc.), the retail trade sector is affected the most. Table 3.35 shows the direct impact of a dollar of recreation expenditure by type of activity.

Many recreational activities take place on public land in the planning area. It is not possible to identify the amount of recreation activity that takes place within the Bennett Hills Resource Area. Also, expenditure data on activities other than hunting and fishing are

not available. For these reasons the remainder of this section will be limited to a discussion of the economic impacts of hunting and fishing in the four-county region. The total 1987 fishing demand for the four-county region was estimated at 41,036 fishing visitor days. The 1989 hunting demand was estimated at 20,670 activity occasions (Personal Communication, Idaho Parks and Recreation 1991). Data in the 1980 National Survey of Hunting and Fishing for Idaho identifies expenditures for hunting and fishing by type of expenditure. Destination-type expenditures were \$16.13 per day for freshwater fishing and \$34.02 per day for all hunting. The definitions for an "activity occasion" and a "day" in the reports by the Idaho Department of Parks and Recreation and the U.S. Fish and Wildlife Service are roughly the same (see Glossary). Thus, the values for expenditures per day have been directly applied to the number of activity occasions. Total fishing expenditures would amount to \$669,000. Hunting expenditures would amount to \$703,000. Total combined expenditures for hunting and fishing would be \$ 1.4 million.

**TABLE 3.35**  
**Distribution of Recreation Expenditures**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Sector	Fishing	Big Game	Small Game	Migratory Birds	Other Hunting
Transportation	\$ .21	\$ .28	\$ .40	\$ .31	\$ .65
Retail Trade	.54	.35	.33	.45	.00
Services	.25	.37	.27	.24	.35

**Revenues and Receipts to Local Governments:** The federal government receives revenues for various activities on public land. These include livestock grazing, mineral leasing, land sales, and timber sales. Some of these fees are the major sources of revenue for local governments. Section 3 grazing fee receipts are distributed in the following manner: 37.5 percent to the federal treasury, 50 percent to the Range Improvement Fund, and 12.5 percent to the counties. Mineral leasing fees are split, with 50 percent going to the federal treasury, and 50 percent to the state. The state, in turn, passes 10 percent of its share on to the counties. Table 3.36 shows the receipts and distribution in the planning area for livestock grazing and mineral leasing in FY 1990.

**TABLE 3.36**  
**Fee Receipts and Distributions**  
**Fiscal Year 1990**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Source	FY90 Section 3	
	Grazing	Mineral Leasing
Federal Treasury	\$ 71,677	\$ 0
State Treasury	0	0
Counties	23,892	0
Range Improvement Funds	95,570	0
Total Receipts	\$191,139	\$ 0

NOTE: Includes receipts from that portion of Lincoln County in the Monument Resource Area

In addition, counties receive payments in lieu of taxes for federal land within their boundaries. In FY 1990 this amounted to \$449,180 for the four-county planning area.

None of these revenues represent a significant portion of any county's budget.

**Depreciative Behavior:** The BLM-administered land has historically provided a wealth of recreation opportunities for Magic Valley residents. However, growing crime, vandalism and resource damage on the public land are degrading recreation opportunities, comprising resource values, and threatening public safety. This is particularly true in the Snake River Rim area north of the Snake River near Twin Falls.

On the rim, incidents of dumping, stolen car "stripping", drug transactions, indiscriminate shooting, and homeless camps have increased steadily over the years. Police officers routinely encounter large groups of underage people consuming alcohol and building bonfires. Since 1990, the BLM range has investigated an average of 80 incidents each year in the rim area. This is an average of .001 incidents per visitor use hour.

# **Chapter Four: Environmental Consequences**

This chapter describes expected environmental consequences that would result from carrying out each alternative compared to the existing situation described in Chapter 3. Professional judgment is used to infer environmental impacts where data is limited. Judgment is based on observation, analysis of conditions, and responses in similar areas.

Each management action within Alternatives A and B is analyzed except the actions that are administrative in nature. To avoid repetition in Alternatives C and D, the analysis presents only the management actions that are different from Alternative B. For the actions that are not different from Alternative B, the reader will be referenced back to the appropriate page number(s) where the analysis can be found in Alternative B. Management actions are grouped by issue or management concern. Cumulative impacts, by resource, for each alternative are shown in Table S-1 in the Executive Summary located at the beginning of this document.

## **Assumptions for Analysis**

Most of the management actions in this plan address potential future demand on public land. Some activities, like grazing management and wildlife habitat management, have continued for decades and have resulted in known environmental impacts. Other activities may be new to a specific area. To assess expected future environmental consequences of the land use allocations, certain assumptions were made and reasonable foreseeable development scenarios were created (see Appendix B).

## **General Assumptions**

Assume all actions from the decisions made in each alternative described in this plan would be in compliance with all federal regulations, BLM policies, and other requirements. Each alternative is analyzed based on the assumption of adequate finances and personnel available to carry out the decisions.

Assume unforeseen actions not covered in this plan or accompanying documents will be analyzed through plan amendments, environmental assessments, or environmental impact statements. That analysis would be done in accordance with BLM planning/environmental guidance prior to approval of the action.

## **Livestock Grazing Management Assumptions**

Current trends in livestock market conditions in the planning area would continue for the life of the plan. Livestock demand and prices will continue to fluctuate in the marketplace.

Long-term grazing use levels and seasons would be based on the effectiveness of individual allotment management plans. Modification of use levels and seasons would depend on the analysis, interpretation and evaluation of monitoring data. Grazing preference changes resulting from actions in this plan would be analyzed in relation to the 1984-1992 nine-year average actual use.

Livestock "best management practices" as prescribed in the *Idaho Non-point Source Management Program* and the *Agricultural Pollution Abatement Plan* would apply to livestock grazing on public land regardless of the alternative selected. Commitment to compliance with the *Federal Clean Water Act* requirements would involve significant changes in livestock grazing practices so that best management practices become the normal manner of operation. Best management practices include, but would not be limited to:

## **Labor-Intensive Practices**

Labor-intensive practices, primarily herding and riding, would not require significant construction of structural improvements, but would mostly use existing facilities. It is assumed that riding would occur every day in riparian areas and every third day in upland areas. Some labor-intensive practices are:

- Shorter periods of grazing use on riparian areas.
- Changing seasons of grazing use. On riparian areas use would primarily occur in the spring rather than summer and/or fall.
- Curtailment of stray animals and/or grazing trespass on riparian areas.

## Livestock Grazing Management Assumptions

- Reduced number of authorized grazing animals on riparian areas.
- Setting strict utilization standards on key riparian plant species.

### Less Labor-Intensive Practices

Less labor-intensive practices would require significant construction of range improvements. Some practices where grazing is allowed are:

- Develop "Riparian Management Pastures" within larger grazing units by constructing fences and placing cattleguards on well-traveled roads.
- Replace gates, which are easily left open, with cattleguards, but gates would be placed a distance away. Unauthorized livestock in riparian zones would be reduced with properly installed and maintained cattleguards.
- Enhance riparian zones by providing alternate watering sites.
- Place salt and nutritional supplements well away from riparian zones.

Less labor-intensive practices where grazing is not allowed in the riparian area would also require significant construction of range improvements. Some practices are:

- Fence the riparian area;
- Re-route all roads to assure gates would not be left open to the riparian area.

### Wild Fire Assumptions

Assume wild fires would continue and would burn an average of 8,815 acres per year in the planning area. Large, catastrophic wild fires occurring infrequently would also continue. For Alternative A, revegetation efforts on areas burned by wild fire would be accomplished in accordance with the Shoshone District Normal Fire Rehabilitation Plan.

## Vegetation Management Assumptions Unique to Alternatives B, C and D

Existing vegetation inventories are a reasonable approximation of present broad vegetation condition in the planning area. A more detailed ecological site vegetation inventory and stream inventory would be completed during the first five years of the 20-year planning horizon.

A Vegetation Management Plan would be prepared by the end of the sixth year of the planning horizon. It would incorporate the newly acquired ecological site inventory data, the desired future vegetation condition goals stated in this plan for 12 identified ecological zones, the detailed vegetation manipulation practices designed to reach those goals, and other pertinent information.

All of the proposed vegetation modification actions for upland and riparian areas would be completed by the end of the 20-year planning horizon. Best management practice to improve and maintain water quality would be incorporated as standard operating procedures.

Upland vegetation manipulation actions would occur in all five geographic reference areas. Primary emphasis would be placed on vegetation manipulation actions in the Lower Bennett Hills, Snake River Plain, and Snake River Rim Geographic Reference Areas where vegetation has been most disturbed. The Upper Bennett Hills and Camas Geographic Reference Areas where native upland vegetation is more intact would receive some vegetation manipulation activities. Areas dominated by exotic annual herbaceous species like cheatgrass and European mustards, crested wheatgrass monocultures, and overly-dense shrub communities lacking desired structural and species diversity would have the highest priority for vegetation manipulation efforts.

Upland vegetation manipulation would include, but would not be limited to, such practices as prescribed burning, seeding, hand planting, mechanical shrub removal and herbicide application. Any method, or combination of methods, could be employed to reach the desired future vegetation condition goals for an ecological zone in any geographic reference area.

Most methods would be used in the Lower Bennett Hills, Snake River Plain, and Snake River Rim Geographic Reference Areas. In the Upper Bennett Hills and Camas Geographic Reference Areas, such practices as prescribed burning or herbicide application could be used in overly-dense stands of sagebrush, but other practices could also be applied.

The desired future vegetation condition for each ecological zone would be met with a combination of native and introduced species. Preference would be given to native plant species. Native plant species would be used where an intact native plant community exists, or where the existing plant community contains many of the principal desirable plant species. Introduced plant species would be used where research or local revegetation experience has demonstrated that the use of native plant species would not result in successful plant establishment. All plant species considered for a seed mixture specific to an ecological zone would have to contribute to satisfying the multiple resource objectives of soil protection, livestock and wildlife forage, aesthetic values, and thermal, escape and nesting cover for wildlife.

Where a desirable mix of plant species is not present, vegetation manipulation efforts would be directed toward releasing the present desirable plant species from competition or introducing desirable plant species into the plant community. With the exception of basin big sagebrush, all proposed plant species used for vegetation rehabilitation actions would be palatable to wildlife, livestock or both.

Vegetation manipulation within any grazing allotment would be tied to the desired future vegetation condition goals for the ecological zone(s) as a whole. Vegetation manipulation actions in a grazing allotment would not be conducted without considering the effects on accomplishing the desired future vegetation condition goals for the entire ecological zone(s) involved.

Temporary non-renewable livestock grazing could be authorized under certain conditions, but use levels would not be allowed to conflict with establishing or maintaining desired plant communities.

Revegetation efforts on areas burned by wild fire would be accomplished in concert with the desired future vegetation condition goals for the ecological zone(s), in which the fires occur, irrespective of fire size.

Vegetation modification actions would incorporate irregular non-linear mosaic boundaries to minimize visual impacts from vegetation alteration.

Special consideration would be given to seasonal (mostly winter) wildlife habitat needs when planning and carrying out vegetation modification within identified wildlife concentration areas. Vegetation treatments areas will be large enough to avoid concentrating big game wildlife species or livestock on treated areas during the sensitive growth stages of desired plant species.

Wildlife Isolated Tracts would be specifically excluded from the desired future vegetation condition goals for the ecological zone(s) in which the tracts are located. This exclusion would permit a wider spectrum of plant communities beneficial to various species of wildlife under irrigated and non-irrigated conditions.

Small restoration projects of up to 40 acres would be specifically excluded from desired future vegetation condition goals. This would allow timely revegetation of disturbed areas to avoid weed infestation and provide protection against soil erosion.

**NOTE:** For the purposes of a more straight-forward and complete analysis, the vegetation ecological status shown in Table 3.13 on page 107 were combined into the categories of early, mid, late seral, potential natural community, grass seeding, and mixed seeding. Also, the highly disturbed, unknown and unclassified ecological status categories were spread among the status categories noted above. These combinations will appear in the figures presented in this chapter.

#### Wildlife and Fish Habitat Management Assumptions

Wildlife populations would be managed in accordance with the Idaho Department of Fish and Game Five

Year Plan in effect at the time this plan is approved. Populations would be based on the capability of the habitat to support the animal numbers.

Based on existing inventory, 20 percent of the streams in the planning area are capable of supporting a viable fishery.

### Public Land and Realty Management Assumptions

All land adjustments would be completed during the life of the plan. Land identified for disposal would go into private or state ownership. In all cases, fair market value would be received for public land sold, and land of equal or greater value would be received for public land exchanged. No right-of-way grants would be issued in areas identified as exclusion or avoidance areas. It is assumed that public land identified for disposal would be converted to commercial or agricultural (farming) uses.

### Wilderness Management Assumptions

All wilderness study areas would be managed under BLM's *Interim Management Policy and Guidelines for Lands Under Wilderness Review* until Congress makes a decision on wilderness designations. Any study areas released by Congress from wilderness consideration would be returned to the multiple use management prescribed in this plan.

### Recreation Management Assumptions

Visitor use on BLM land would increase, based on documentation in the *1990 Centennial Edition Idaho Statewide Comprehensive Outdoor Recreation Plan*. All recreation facilities proposed as new *Recreation and Public Purpose Act* leases included as part of a scenario would be constructed by the fifth year of the 20-year planning horizon, and would be active for the life of the plan.

### Economic Assumptions

Economic costs, values or benefits are based on present economic values. The values are shown in Table 4.0.

It is assumed that the livestock industry maintains a herd size equal to or greater than their grazing preference on the public land. Decreases in preference below the nine-year average actual use would require the replacement of public pasture land with private pasture land, and thus would represent an additional cost to the industry. Increases in preference above the nine-year average actual use would transfer grazing from private pasture land to public, and thus would represent a savings to the industry.

## Existing Environmental Analysis

Since the inception of the *National Environmental Policy Act of 1969*, the Bennett Hills Resource Area staff has conducted many environmental analyses on site-specific projects and previous land use plans. Table 4.1 shows the environmental documents relevant to this plan. The documents listed in the table are incorporated by reference into this document and are available for review during normal business hours at the Shoshone District Office.

## Resources Not Affected or Impacted

Wild horses and burros, prime or unique farmland, cultural resources, hazardous or solid wastes, and Native American religious concerns are either not present or would not be affected under any of the alternatives.

**TABLE 4.0**  
**Economic Costs, Values,**  
**or Benefits to Society**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Public Land Resource or Activity	Unit Description	Dollar Cost, Value, or Benefit
Deer Hunting	Hunter Day	38.35
Elk Hunting	Hunter Day	50.23
Antelope Hunting	Hunter Day	77.10
Other Big Game Hunting	Hunter Day	51.40
Water fowl Hunting	Hunter Day	40.70
Upland and Small Game Hunting	Hunter Day	40.69
Warm Water Angler Day	Angler Day	37.63
Cold Water Angler Day	Angler Day	36.48
Developed Recreation	Visitor Day	7.14
Disbursed Recreation	Visitor Day	4.28
Wildlife Viewing	Visitor Day	27.12
Off-Highway Vehicle Recreation	Visitor Day	27.12
Livestock Forage (Public)	Animal Unit Month	1.92
Livestock Forage (Private)	Animal Unit Month	9.41
Livestock Herding	Rider Day	60.00

Source: BLM's Investment Analysis Model

**TABLE 4.1**  
**Existing Relevant Environmental Documents**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Document Name	Date Published
Final Sun Valley Grazing Environmental Impact Statement	July 1981
State of Idaho National Guard Tracked Vehicle Maneuver Area Expansion Environmental Assessment (ID-050-4-77)	April 1984
Final Shoshone Grazing Environmental Impact Statement	November 1979
Proposed Monument Resource Management Plan and Final Environmental Impact Statement	December 1984
Final Monument Wilderness Environmental Impact Statement	July 1987
Final Small Wilderness Study Areas Statewide Environmental Impact Statement	September 1989
Final Shoshone/Sun Valley Wilderness Environmental Impact Statement	April 1986
Proposed Jarbidge Resource Management Plan and Final Environmental Impact statement	September 1985
Final Jarbidge Wilderness Environmental Impact Statement	October 1987
Final Environmental Impact Statement, Northwest Area Noxious Weed Control Program	December 1985
Final Environmental Impact Statement, Supplement to the Northwest Area Noxious Weed Control Program	March 1987
Final Environmental Impact Statement, Vegetation Treatment on BLM Lands in Thirteen Western States	May 1991
Thorn Creek Pilot Riparian Grazing Management Plan Environmental Assessment (ID-05-87-067)	December 1987
Box Canyon Area of Critical Environmental Concern Management Plan Environmental Assessment (ID-050-86-014)	December 1985
Shoshone District Noxious Weed Control Environmental Assessment (ID050-EA-92031)	March 1992
Shoshone District Wilderness Study Area Noxious Weed Control Environmental Assessment (ID050-EA-91040)	March 1992
Shoshone District Greenstripping Plan Environmental Assessment (ID-050-90-20)	April 1990
Amendment to the Bennett Hills Management Framework Plan, The Sun Valley Management Framework Plan, and the Monument Resource Management Plan Environmental Assessment (ID050-EA-91021)	April 1991
Shoshone District Animal Damage Control Environmental Assessment (ID050-EA-91036)	December 1992
Shoshone District Normal Fire Rehabilitation Plan Environmental Assessment (ID-050-89-20)	July 1989
Magic Recreation Area Management Plan Environmental Assessment (ID-050-4-89)	July 1984

## Impacts of Alternative A (No Action)

The following is a description of the environmental impacts of Alternative A. This is the "no action" or existing management alternative. This section summarizes the impact descriptions from the existing analyses (listed in Table 4.1) conducted under the *National Environmental Policy Act*. Also included is analysis of the reasonable foreseeable developments expected to occur. The impacts are grouped first by issue and then by management action responding to the issue. Cumulative impacts, by resource, for each alternative are presented in Table S-1 in the front of this document.

- Issue 1: How will the BLM continue to focus management attention on riparian resources and related uplands?

Many public comments regarding the management of riparian/upland areas and water quality were received. Comments included praise for the current riparian management policies and achievements, and suggestions for expanding the pilot management efforts to the entire resource area. Comments regarding livestock use ranged from satisfaction with the current management level to dissatisfaction and urging more intensive livestock management. Riparian management is of primary concern to the BLM, as shown in the BLM's Riparian Management Policy (Fish and Wildlife 2000, 1987), and has received considerable management attention in the Bennett Hills Resource Area, as demonstrated by the Thorn Creek Pilot Riparian Management Area and other "showcase" riparian achievements. Of concern to the public and the BLM is the continued and expanded attention to riparian and upland resources.

The following management actions are brought forward from existing plans to address Issue 1. The impacts of each decision immediately follow the management action.

*Manage vegetation through numerous mechanical techniques and with limitations on where certain techniques may be used for the purpose of improving vegetation composition [1.01 through 1.27].*

The analysis of this management action was based on the vegetation manipulation scenario in Appendix B (page 290).

Vegetation manipulation would occur on 11,100 acres at a cost of \$228,300 over the 20-year planning horizon. In the Lower Bennett Hills, Snake River Plain and Snake River Rim Geographic Reference Areas, planned seeding of perennial grass species would occur on 10,800 acres. Additional acres would be seeded as part of rehabilitation following a wild fire. Total acres seeded in the planning area over the life of the plan would be 71,800 acres. Vegetation community composition changes would be accelerated by planned use of seeding and the use of prescribed burning, mechanical shrub removal, or herbicide application. The latter three practices would be used mostly as pre-treatments to improve the probability of success in the seeding phase. In certain instances, they would be used alone, or together, to reach a specific vegetation objective.

Prescription burning on 300 acres would be conducted to reduce competition between crested wheatgrass and big sagebrush on crested wheatgrass seedings. Rehabilitation of 5,900 of the 8,815 acres burned by wild fire in the Lower Bennett Hills, Snake River Plain and Snake River Rim Geographic Reference Areas provides an opportunity to replace vegetation communities containing less palatable introduced annual grasses, forbs and shrubs with perennial grasses.

Fire activity would increase air particulate matter by 15 tons of fuel per burning hour. The actual smoke plumes would exceed National Ambient Air Quality Standards. However, under the prescribed meteorological conditions, the national standard for 24-hour average concentration of respirable particulate matter, 150 micrograms per cubic meter of air, would not be threatened (Dames and Moore, 1992).

Limited use of approved chemicals on 500 acres in the Lower Bennett Hills, Snake River Plain and Snake River Rim Geographic Reference Areas is anticipated for seedbed preparation prior to seeding. Selective chemical control of thick stands of sagebrush could occur. Pre-emergence, or post-

emergence treatment of less desirable introduced annual grasses and forbs may be necessary.

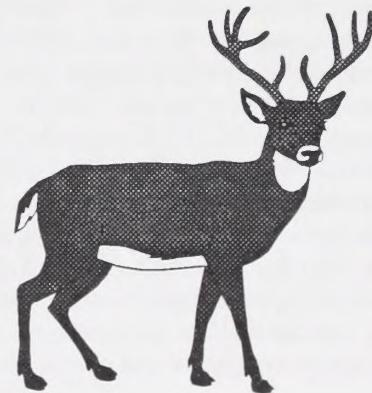
A maximum of 2,850 animal unit months of livestock use per year would be temporarily reduced in vegetation treatment and wild fire areas. Based on the ratio of the nine-year average actual use to preference, approximately 1,938 animal unit months of livestock use per year would be temporarily reduced in vegetation treatment and wild fire areas. Livestock grazing would decrease on a given treatment area in the short-term, but not in the long-term. Over the 20-year planning horizon, some areas would be treated; later, those areas could be grazed, while other areas would be treated. This does not reflect a straight-line approach to yearly treatments. Rather, it reflects an average treatment sequence per year for 20 years.

These temporary reductions in available forage would increase annual livestock industry operating costs by \$14,500 per year in the Lower Bennett Hills, Snake River Plain and Snake River Rim Geographic Reference Areas combined.

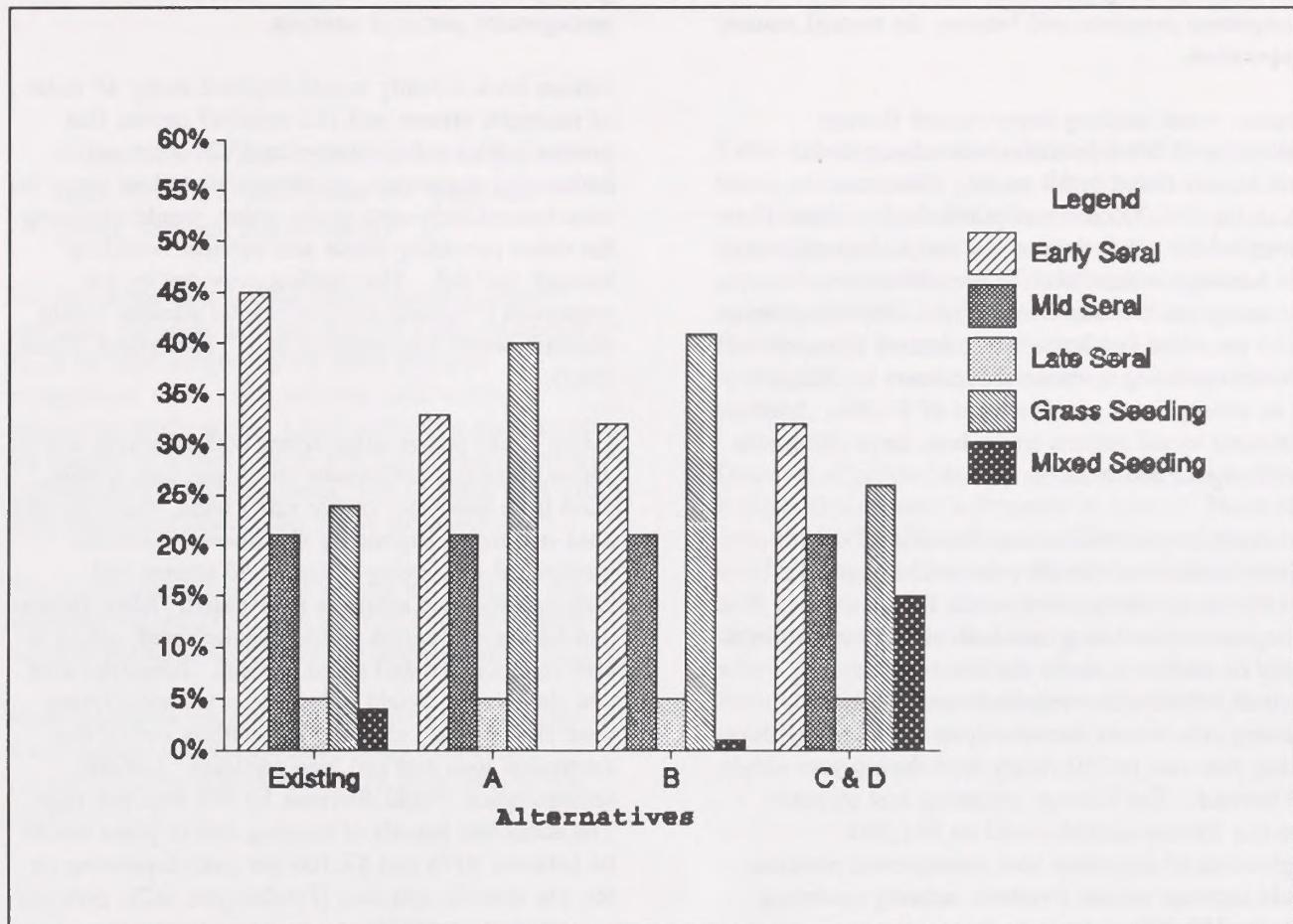
Seeding activities from planned treatments and fire rehabilitation would disturb the soil surface on 6,430 acres per year. The primary erosion hazard in these geographic reference areas is from wind, but water erosion can be a problem on sloping land. Increased erosion would be 0.25 tons per acre per year during the short term, returning to the pre-treatment rate in the mid term, and falling to .01 tons per acre per year in the long term. Based on an average rate of 6,430 acres per year of soil disturbance, erosion/deposition would increase by 1,610 tons per year in the short term. As seedings reach full production, erosion would decrease by 64 tons per year from the pre-treatment rate. Improvements in the upland vegetation would reduce off-site sedimentation or deposition by 2,870 tons per year. The total off-site sedimentation decrease from both the treatment site and adjacent uplands would be 2,934 tons per year. The economic benefit of keeping 2,934 tons of soil in place would be between \$1,000 and \$16,100 per year depending on the site specific situation (Feichtinger, SCS, personal communication, 1993).

Vegetation manipulation, wild fire, and livestock management practices would change the vegetation composition of shrubs, grasses, and forbs. The ecological status would remain relatively static. Figure 4.1 shows the relative changes in ecological status for all four alternatives compared to the present situation. The early ecological status would be replaced by 79,780 acres of grass seedlings. The acres in the mid and late ecological status would remain unchanged. Mixed seedings would remain unchanged.

The continued trend toward monoculture grass seedings would reduce the quality of wildlife habitat in the planning area. Big game populations would decline resulting in decreased hunter activity. Hunter activity would decline by as much as 4,596 hunter days each year at the end of the 20-year planning horizon. This decline in hunter days would decrease income to the local economy by \$176,300 each year.



**FIGURE 4.1**  
**Percent of Ecological Status by Alternative**  
**at the End of 20 Years**  
**Bureau of Land Management**  
**Shoshone District, Idaho**



*Maintain the quantity and improve the quality of water available for power boating, sail boating and swimming [2.01]. Improve the trend in erosion condition by implementing grazing management systems which meet the physiological needs of herbaceous species [2.07].*

The existing inventory of streams, while not complete, is a representative sample of the kind and condition of streams throughout the Bennett Hills planning area. Based on that inventory, 25 percent

of the streams are presently in functioning condition and 75 percent are not. The goal of BLM's Riparian-Wetlands Initiative stating, "75 percent or more of the riparian wetland areas will be in proper functioning condition by 1997," cannot be met under this alternative; nor would that goal be met by the end of the planning horizon. Attainment of that 75 percent goal requires a total commitment by BLM and all permittees who graze their livestock on public land. Commitment means investment of time and money to assure grazing plans and schedules are strictly

followed. Also, problems are quickly discovered and solved to avoid damaging the riparian vegetation. Reaching the 75 percent goal for riparian area improvement and compliance with the *Federal Clean Water Act* requirements involves significant changes in livestock grazing practices. Livestock best management practices will become the normal manner of operation.

Riparian zones needing improvement through application of labor-intensive best management practices are found in 35 grazing allotments containing 454,000 acres of public land. About 1 percent of the public land acres are in riparian zones. This herding commitment for the allotments containing riparian areas would be 1,340 riding days at \$60 per rider and horse day. Annual livestock industry operating costs would increase by \$80,400 for an average cost per allotment of \$2,300. Small allotments would require much less, large allotments would require much more.

The average maintenance cost for structural improvements over the 20-year period would be \$9,100. In the early years, while fences and cattleguards were being installed, riding requirements would be similar to those for labor-intensive practices. Riding day requirements within the planning area would decrease from 1,570 riding days during year one to 350 riding days during year eleven and beyond. The average operating cost increase over the 20-year period would be \$41,200. Application of structural best management practices would increase annual livestock industry operating costs by \$50,300.

Livestock best management practices would decrease livestock use on 2,100 riparian acres along 228 stream miles. This use would transfer concentrated grazing in riparian areas to dispersed grazing on uplands. At three acres of riparian vegetation per animal unit month, a total of 700 animal unit months of livestock use would be transferred to the uplands. The impacts of transferring this use to the uplands are not expected to be significant.

Hand planting of willows, carex plug placement and aspen plantings would occur as part of the objective to improve riparian areas. An average of one mile of

stream would be planted with adapted herbaceous and woody species each year over the life of the plan. The cost would be \$3,000 per year. Protecting the planting from livestock grazing would be required. The costs of protecting these site from livestock grazing was addressed earlier under the best management practices analysis.

Stream bank stability would improve along 46 miles of perennial stream and 182 miles of stream that presently do not flow year-round. Woody and herbaceous vegetation, growing undisturbed along the zone immediately next to the water, would overhang the water providing shade and nutrient recycling through leaf-fall. The shading provided by the vegetation overhang along perennial streams would decrease water temperatures by 4° Fahrenheit (Platts, 1983).

Stable banks and riparian zones with a diverse mix of native perennial herbaceous shrub and tree species, yield little sediment; on the other hand, they trap and hold sediments originating elsewhere. Reduced mechanical dislodging of bank and stream bed materials by hoof action is anticipated. Also, reduced defoliation of riparian plants is anticipated, which in turn reduces root and shoot volume. Improved root and shoot mass would reduce flow velocity during peak-flow events, allowing the settling out of both suspended load and bed load particles. Off-site sedimentation would decrease by 390 tons per year. The economic benefit of keeping soil in place would be between \$376 and \$2,100 per year depending on the site specific situation (Feichtinger, SCS, personal communication, 1993).

Fish habitat would improve along 46 stream miles. This assumes that 20 percent of the 228 miles of stabilized functioning riparian areas would be capable of supporting some kind of fishery.

Many niches for game and non-game species would be created with a multi-storied functional riparian ecosystem. A great potential for increased biodiversity lies in the "green zones" influenced by surface or subsurface water.

- Issue 2: What land will be acquired into, or made available for disposal from, federal ownership?

The Shoshone District has implemented a land exchange program with the State of Idaho designed to block up land ownership for more efficient management and to acquire state land within wilderness study areas. Land ownership adjustments are needed to achieve more efficient management and utilization of public resources, and to bring land with high resource values under BLM management.

The following management actions are made in this alternative to address Issue 2. The impacts of each decision immediately follow the management action.

*Make available for disposal from public ownership  
6,672 acres by exchange only (map symbol B),  
14,700 acres by sale or exchange (map symbol C)  
[3.00].*

Table 4.2 shows the decrease in wildlife habitat, and visual and recreation classes that would occur if the land identified for sale is transferred from public ownership and converted to other uses. The disposal action does not affect wildlife habitat, visual or recreation opportunity spectrum classifications. However, the conversion of disposed land to agricultural or commercial uses would affect these values.

Disposal of public land by sale would decrease the Federal Government's Payment In Lieu of Taxes to counties by \$1,470 each year. This loss of revenue would be replaced by tax payments made by the new land owner(s). The amount of new tax payments is dependent on the value of the land and the use to which the land is converted. Because of the variability of values and uses, no estimate of the increase in taxes is made.

**TABLE 4.2**  
**Decreases in Resource Values Resulting from**  
**Land Tenure Adjustments of Alternative A**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Kind of Resource Value Affected	Decrease from Sale		Decrease from Exchange		Total Decreases	
	acres	%	acres	%	acres	%
<b>Wildlife Habitat</b>						
Crucial Deer	744	<1	4,790	2	5,534	<3
Yearlong Deer	9,398	2	0	0	9,398	2
Winter Elk	310	2	0	0	310	2
Yearlong Elk	6,198	<1	0	0	6,198	<1
Crucial Antelope	54	<1	0	0	54	<1
Winter Antelope	1,251	<1	6,677	4	7,928	<5
Yearlong Antelope	9,662	2	0	0	9,662	2
Crucial Sage grouse	268	<1	0	0	268	<1
Yearlong Sage grouse	9,481	3	0	0	9,481	3
<b>Visual Resource Management Class</b>						
Class II	2,109	<1	1,562	<1	3,671	<2
Class III	11,387	3	2,938	<1	14,325	<4
Class IV	1,154	2	2,177	3	3,331	5
<b>Recreation Opportunity Spectrum Class</b>						
Rural	0	0	0	0	0	0
Roaded Natural	6,275	6	2,119	2	8,394	8
Semi-primitive Motorized	6,945	2	4,422	1	11,367	3
Semi-primitive Non-motorized	1,338	2	136	<1	1,474	<3

Disposal of public land by sale would decrease grazing preference by 1,774 animal unit months and average actual use by 1,522 animal unit months. Grazing fee receipts to the government would

decrease by \$2,900 per year. These decreases would occur only at the time of disposal. Until disposal occurs, the land would still be available for livestock

grazing. Annual livestock industry operating costs would increase by \$11,400.

Land identified for exchange includes 1,348 animal unit months of grazing preference and an average actual use of 884 animal unit months. However, the land acquired through the exchange process would return some amount of grazing use.

Table 4.2 shows the acres of big game habitat on land identified for exchange. Private or state land received in exchange for public land may have value as big game habitat. However, the acquired land may not have the same value or support the same species as the disposed public land.

Changes in the area considered as crucial deer habitat have resulted in a conflict between the land identified for disposal and management action [3.01]. This action states that land considered as crucial deer winter habitat may not be proposed for disposal.

None of the public land under Desert Land Entry is identified for disposal.

- Issue 3: How will public resources along the north rim of the Snake River Canyon be managed and for what uses?

During the scoping process, much public attention was focused on the area bounded by the Snake River rim on the south, Interstate 84 on the north, and US Highway 93 on the west. Due to its proximity to the city of Twin Falls, increased recreation use, and the public's increased environmental awareness of the Snake River, this area contains many important public resource values. Besides the high recreation use, the area contains significant historical value (remnants of the Oregon Trail), also wildlife habitat, livestock forage, saleable mineral materials, an Area of Critical Environmental Concern (Vineyard Lake), and portions are proposed for exchange into state ownership. Coordinated and focused management is needed to avoid conflict between the public users and degradation of the resources.

The following management actions are made in this alternative to address Issue 3. The impacts of each decision immediately follow the management action.

*Establish 5,668 acres as the Snake River Rim Special Recreation Management Area (map symbol R on Map 2.2) [5.00].*

The analysis of this management action was based on the Snake River Rim Special Recreation Management Area scenario in Appendix B (page 296).

Construction of a shooting range, chariot racing facility, and motocross tract north and east of the Perrine Bridge would convert 240 acres from a Roaded Natural to a Rural recreation opportunity classification. These actions would be authorized as *Recreation and Public Purposes Act* leases. Development of facilities by the BLM to help manage recreation use in the area would convert 35 acres from a Roaded Natural to a Rural recreation opportunity classification.

Construction of facilities under *Recreation and Public Purposes Act* leases would increase soil compaction on 240 acres. BLM construction would increase soil compaction on an additional 35 acres. The effects would be localized and confined to the actual construction site during the short-term. The sandy and sandy-loam soils would not show long-term effects on the rate of moisture infiltration.

Two hundred seventy-five acres of vegetation and wildlife habitat would be lost. Loss of vegetation would decrease livestock grazing preference by 32 animal unit months and average actual use by 22 animal unit months. The reduction in preference is 1 percent of the affected allotments. Annual livestock industry operating costs would increase by \$160.

The anticipated visitor use increases with development of recreation facilities is shown in Appendix B Table B.2. Use would increase by over 7,100 visitor hours each year through the fifth year of the plan and would then increase approximately 2 percent per year from years five through twenty. In years five through twenty, visitor use would be 45 percent higher than without the facilities. At the end of the planning horizon, use in the rim area is projected to be 161,100 visitor hours per year. This is a 111 percent increase in the visitor use from the current levels.

Increased visitor use would increase soil erosion by wind an estimated 49 tons per year. Based on current visitor use correlations, reports of human-caused fires would increase by 10 percent (four reports) per year, and criminal incidents would increase by 46 percent (36 reports) per year. Littering is expected to rise proportionally with the increase in visitor use. Increased visitor use would contribute an additional \$31,900 per year to the local economy.

*Close Dry Cataracts and Devils Corral (map symbol E on Map 2.2) to material sales and free use permits [5.03].*

The closure would decrease the saleable mineral area by 823 acres. However, this area has been heavily mined for materials in the past and no known mineral reserves remain. There are currently no active pits or permits for the removal of mineral material so the effect of closure is negligible.

*Close 345 acres in the Devils Corral (map symbol F on Map 2.2) to vehicle use [5.08].*

Closure of 345 acres to motorized vehicle use would change the current Roaded Natural and Semi-primitive Motorized recreation opportunity classifications to Semi-Primitive Non-motorized. So far this closure has not been effective; additional use supervision is needed to effectively close Devils Corral.

- Issue 4: Is there a need for protecting the Resource Area's critical resource values through special management designation?

During the scoping process, the BLM received formal nominations for Areas of Critical Environmental Concern. Additionally, there are other special designations that can be made to focus management attention. These designations include, but are not limited to, Special Recreation Management Areas for providing specific recreation opportunities, Significant Caves to focus management attention on important cave resources, Conservation Areas or Research Natural Areas for the protection or enhancement of research opportunities, etc. Selection and use of the

appropriate designation is based on evaluation of the critical resource values. The *Wild and Scenic Rivers Act* of 1968 requires the BLM to study and make recommendations on waterways for inclusion in the National Wild and Scenic Rivers System. This planning effort will determine eligibility, tentative classification and interim management of wild and scenic rivers as part of this issue.

The following management actions are made in this alternative to address Issue 4. The impacts of each decision immediately follow the management action.

**Suitability of river segments for inclusion in the National Wild and Scenic River System.** The existing land use plans make no determination of the suitability or nonsuitability of river segments for inclusion in the National Wild and Scenic Rivers System. This alternative would mean that no eligible river segment would be added. The eligible segments would continue to be managed under existing county, state and federal authorities. These authorities include: *The Threatened and Endangered Species Act*, *the State of Idaho Anti-degradation Agreement*, *the State of Idaho Stream Channel Protection Program*, and other management actions contained in this alternative as brought forward from existing land use plans listed in Table 4.1.

Existing land use plans have no specific guidance to protect outstandingly remarkable resource values of eligible river segments. The outstandingly remarkable values along the Vineyard Creek and Box Canyon Creek corridors would be protected under the BLM's Areas of Critical Environmental Concern designations. Most land uses and developments on public land would continue subject to existing federal laws, regulations and policy. Such uses include grazing, livestock and wildlife improvement developments, rights-of-way, vegetation manipulation, and mineral development. Hydropower development and stream diversions could be allowed, subject to federal license and state permit requirements. Long-term protection of the outstandingly remarkable values on public land would not be guaranteed.

*Designate 142 acres in Box Canyon as an Area of Critical Environmental Concern for the purpose of preservation and research of threatened and*

*endangered animal species. Designate 110 acres in Vineyard Lake area as an Area of Critical Environmental Concern (map symbol A on Map 2.2) to preserve spawning habitat for hybrid trout [7.00].*

The continuation of the Box Canyon Area of Critical Environmental Concern, and the management actions supporting this designation, would help preserve habitat for snails. Preservation of this habitat would improve the survival of the snails found to exist in the canyon. Box Canyon is known habitat for two endangered species (Banbury Springs limpet and Utah valvata snail), one threatened species (Bliss Rapids snail) and two federal candidate species (Giant Columbia River limpet and Shoshone sculpin).

*Stipulate no surface occupancy for leasable mineral (oil and gas) exploration and development in the Box Canyon and Vineyard Lake Areas of Critical Environmental Concern (map symbol K on Map 2.2) [7.-02].*

Within the stipulation areas, 252 acres of public land are considered prospectively valuable for geothermal resources. The entire stipulation area is considered to have a low potential for the occurrence of oil or gas resources. There are no leases currently in these areas.

*Close the Vineyard Lake Area of Critical Environmental Concern (map symbol F on Map 2.2) to vehicle use [7.03].*

Vehicle limitations within the Vineyard Lake Area of Critical Environmental Concern would not be significant. Only a small portion of the area is accessible to vehicle use.

*Close the Vineyard Lake Area of Critical Environmental Concern (map symbol E) to material sales and free use permits [7.06].*

Closure of the area would have only limited impact because the area is not known to have any potential for saleable mineral development.

## ● Management Concerns

Management concerns focus on use conflicts, law or policy, or resource conditions that have not been identified during the scoping process as issues. Nevertheless, these concerns require management attention to anticipate future needs and avoid developing into issues in future years. In most cases, these topics are neither highly controversial, based on public scoping, nor different between alternatives, but need to be fully considered in the planning process.

The following management actions are made in this alternative to address management concerns. The impacts of each decision immediately follow the management action.

*Include 6,349 acres in the Wildlife Isolated Tracts Program (map symbol D) to maintain or improve the quality and integrity of wildlife habitat. The primary objective is to maintain or improve the integrity of existing winter, escape and nesting cover for upland game birds [9.00].*

The analysis of this action was based on the Wildlife Isolated Tracts scenario in Appendix B, page 288. Vegetation manipulation treatments would occur on 1,027 acres. Treatment costs would be \$24,800 over the life of the plan. Treatments would improve nesting, escape and thermal cover for pheasants, which may increase population.

*Seek to acquire easements for public access on the portions of roads crossing private or state land [10.-00].*

Improved access to public land would make 21,377 acres more accessible. Better access would increase visitor use by 500 visitor hours per year. Of the 21,377 acres, 4,398 acres are in recreation opportunity class Roaded Natural, 15,849 acres are in Semi-primitive Motorized, and 1,130 acres are in Semi-primitive Non-motorized. These Recreation Opportunity Classes are within ½-mile of the new access. There is no actual change in the number of acres in a class, just an increase in the access convenience.

## Management Concerns

The increased visitor use would add \$1,700 annually to the local economy. Human-caused fires would increase by one fire per year. Littering is expected to rise proportionally with the increase in visitor use.

The acquisition of all access needs identified on Map 3.13 would increase the BLM's road system by 22 percent. Maintenance costs on the new access would be \$10,200 every five years, because maintenance would occur every five years.

*Provide 82,301 Animal Unit Months of active grazing preference [12.00].*

The analysis of livestock grazing impacts on vegetation moves from the general to the specific. First, general principles of vegetation response are reviewed. Next, vegetation response during specific grazing use periods for the planning area is discussed. Then, the effect of grazing by different kinds of grazing animals are described. Finally, the combined management changes that have occurred are analyzed.

General Upland Vegetation Response to Periods of Grazing Use. Impacts to vegetation caused by grazing vary according to the vegetation stage of growth or dormancy. Defoliation (grazing) of plants during susceptible periods can reduce the ability of plants to maintain growth and vigor (Buwal and Trlica 1977). The time of defoliation is very important in determining the ability of the plant to recover.

Grazing any time during the green period of plants reduces the amount of food made and stored by them. This reduction, in turn, decreases the plant's capability to produce both shoot and root growth during the following growing season (Hormay 1970). This green period, which varies from plant species to plant species, begins in early April and continues into late August in the planning area. Most perennial forage grasses are dormant from summer drought by the first part of August. See Table 4.3.

There is general agreement among research scientists the most critical time in the growth cycle of most perennial forage grasses is the period between rapid spring growth and maturity, which occurs shortly after the time of seed ripening. Hormay (1970)

indicates that defoliation is most harmful when food reserves are lowest. This occurs in the spring or early summer when the plant is most rapidly growing and until food storage is completed. Using fall levels of carbohydrate food reserves as an index to determine the severity of defoliation, Cook, et al. (1971) found these reserves were at their lowest following defoliation during rapid growth about May 1, or at maturity, about July 1. Approximately 75 percent of these reserves are used in the spring to produce some 10 percent of herbage growth (Stoddart and Smith 1955). McCarty and Price (1942) identified two critical periods in the growth of forage grasses. They are the period of active reproduction, from flower-stalk formation to and including seed ripening, and the forepart of the normal carbohydrate storage period. The most detrimental time of defoliation is during active growth when carbohydrate reserves are being used to produce herbage (Buwal and Trlica 1977).

There is also widespread agreement among research scientists with regard to browsing of shrubs. Continual heavy spring browsing severely depletes the plant's reserves, reproductive growth, and vigor; it eventually causes the death of the plant. Garrison (1972) found that while removal of the terminal bud will activate the lateral dormant buds, this vegetation growth is detrimental to flower and fruit production. Therefore, a decrease in the amount of viable seed occurs, resulting in fewer new plants in the future. Garrison (1972) also states that "late spring and middle of the growing season... are the most damaging periods of use." Trlica and Cook (1971) found most shrub species defoliated by clipping about May 10 or July 1 had significantly smaller food reserves by the fall season than unclipped plants. Defoliation on approximately April 1 had less impact on food reserves than the May or July defoliation. Stoddart and Smith (1955) noted that browse plants completely defoliated three or four times in a season are readily killed and that removal of only half of the foliage markedly weakens the plant.

Most research scientists consider fall and winter to be the least harmful periods for grazing upland plants. Garrison (1972) found fall and winter use of selected species is the least damaging to the plant's food reserves. Defoliation of 50 to 60 percent of a current

year's growth is less harmful during the fall, early or late winter, or early spring than during late spring or early summer (Cook, et al. 1971).

#### Upland Vegetation Response to Planning Area

**Grazing Use Periods.** A study of the phenological, or life-cycle, events of important upland range plants was made in 1976 for the Shoshone District. Several important plant species are shown in Table 4.3 with four important phenological events: start growth; peak of flowering; seed ripe; and date of seed dissemination, represented by the shattering of seed heads. This information has not changed since 1976 and is as relevant today as it was when gathered.

To analyze the effect of grazing on the upland vegetation resource, specific grazing use periods were identified. These use periods generally correspond to the principal phenological events for the important forage species shown in Table 4.3. They also coincide with existing general periods of livestock use in the planning area. The use periods are listed in Table 4.4 along with calendar dates, phenological occurrences, and the physiological or plant life process reaction to defoliation by grazing during specific use periods.



Management Concerns

TABLE 4.3  
 Major Phenological Stages <sup>1</sup>  
 of Important Forage Plant Species  
 Found in the Planning Area  
 Bureau of Land Management  
 Shoshone District, Idaho

Plant Species	Start Growth Date	Peak of Flowering Date	Seed Ripe Date	Seed Disseminate Date
<b><u>GRASSES</u></b>				
Crested wheatgrass	03/15-03/30	06/15-07/05	07/20-08/01	07/30-08/10
Bluebunch wheatgrass	03/30-04/15	06/10-07/10	07/10-07/30	07/20-08/05
Idaho fescue	04/15-04/20	06/30-07/05	07/20-07/30	07/25-07/30
Prairie junegrass	03/20-03/30	07/03-07/07	07/25-07/30	07/28-08/02
Nevada bluegrass	03/20-03/30	06/20-07/05	07/10-07/15	07/15-08/05
Sandberg's bluegrass	03/01-03/20	05/05-06/10	06/05-07/10	06/10-07/15
Bottlebrush squirreltail	03/10-03/30	06/05-06/20	07/01-07/25	07/05-07/20
Western needlegrass	04/05-04/15	06/10-06/20	06/25-07/15	07/10-07/20
Thurber's needlegrass	03/01-04/10	06/01-06/20	06/20-07/10	07/01-07/10
<b><u>FORBS</u></b>				
Agoseris	04/05-04/15	06/15-06/25	06/20-07/05	06/25-07/05
Tapertip hawksbeard	04/05-04/15	05/25-06/05	06/25-07/20	06/25-07/20
Butterweed groundsel	03/30-04/15	05/25-06/05	06/10-06/20	06/10-06/25
<b><u>SHRUBS</u></b>				
Antelope bitterbrush	04/05-04/20	06/05-06/30	07/10-07/25	07/20-07/30

1/ Phenological stages refer to specific development stages in plants.

Source: Phenology study of Principal Forage Species in the Shoshone ES Area, 1976

**TABLE 4.4**  
**Grazing Use Periods and Important Phenological Events**  
**in Relation to Defoliation by Grazing Specific to the Planning Area**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Grazing Use Period Description	Calendar Dates	Important Phenological and Physiological (Plant Functions) Occurrence , Perennial, Forage Grasses	
		Without Defoliation (Rested or Deferred from Grazing)	With Defoliation <sup>1</sup> (Grazed Only During this Period) <sup>2</sup>
Early Spring	03/16 to 04/30	Begin growth, but prior to most rapid growth, both roots and shoots elongate; adequate root reserves remain through the period.	Still adequate root reserves are used up more rapidly by replacing shoot loss by grazing; root growth slightly reduced; normally regrowth occurs but quantity of herbage is somewhat reduced.
Late Spring	05/01 to 06/15	Period of most rapid root and shoot elongation, seed stalks form and emerge; root reserves are very low; plant is depending on its food production from green tissue; end of period is very close to "Peak of Flowering" (6/20).	Root and shoot growth greatly reduced by defoliation; less robust root system renders plant less able to extract soil moisture; herbage production is reduced; seed stalks consumed in the "boot stage" <sup>3</sup> or while they are succulent after emergence reduces reproductive success.
Early Summer	06/16 to 07/15	Peak of reproductive cycle; "Peak of Flowering" (06/20) occurs early in the period; root reserves are low at beginning of period but are slowly building toward the end; much manufactured food going into seeds; plant may begin to experience some moisture stress during hot days from depleted soil moisture.	Root and shoot growth are reduced by defoliation, the magnitude being greater near the beginning of the period than near the end; reproductive success may be greatly reduced, weakened root system causes considerable moisture stress during hot days; defoliation reduces rate of root reserve storage because manufactured food is used in plant maintenance.
Late Summer	07/16 to 08/31	"Seed Ripe" period occurs near the beginning of the period; "Seed Shatter" occurs shortly after; root reserves build rapidly in late July and early August; moisture stress induced dormancy occurs by mid to late August.	The effect of defoliation is greatly reduced; some reduction in root reserves may occur during the early part of the period; after dormancy there is little effect on the plant; grazing during this period is very beneficial as mature seed is dislodged and much more is trampled into the soil (planted) than under natural ungrazed conditions.

Grazing Use Period Description	Calendar Dates	Important Phenological and Physiological (Plant Functions) Occurrence , Perennial, Forage Grasses	
		Without Defoliation (Rested or Deferred from Grazing)	With Defoliation <sup>1</sup> (Grazed Only During this Period) <sup>2</sup>
Early Fall	09/01 to 10/31	Moisture stress induced dormant period; fall "green-up" may occur if September rains provide adequate moisture, thus slightly reducing root reserve; normally fall green-up occurs only about once in three years.	Defoliation does not significantly affect the plant except when fall green-up has occurred; when that happens root reserves are slightly reduced without the benefit of the green tissue being ready to manufacture food the following spring; deferring livestock use until this time is much less beneficial from a seed trampling standpoint than immediately after seed ripe; for some species that retain their seed, there is some effective planting.
Late Fall	11/01 to 12/15	Temperature induced dormant period; standing dead material helps insulate the plant from cold and creates a microclimate to improve moisture efficiency by shading the soil and trapping blowing snow around the plant.	Defoliation during this period is generally not harmful to the plant; the effect of standing dead material on improved microclimate for moisture efficiency is reduced somewhat; Sauer (1978) found bluebunch wheatgrass had less green material and shorter leaves but did not suffer in height or number of seed stalks or seed head length, as measured the following June 15, when defoliation of standing dead material occurred during winter dormancy.
Winter	12/16 to 03/15		

- 1 Assume moderate grazing. Assume also that the plants are reasonably vigorous. If plants are very vigorous the results are minimized. If plants are very weak death may occur from grazing at any green stage.
- 2 In order to make description meaningful, grazing only during the specified period is assumed because the effects of grazing are cumulative. Thus, if a plant is defoliated during early spring, late spring, and early summer the total weakening effects are much greater than if the plant is grazed during only one use period.
- 3 The "boot stage" refers to the non-mature seed stalks still in the leaf sheath and not yet emerged.

The kind of domestic livestock which graze public land is an important factor when determining the effects of grazing on the vegetation resource. The kind of livestock refers to cattle, sheep, or horses within the planning area. The class of livestock, on the other hand, refers to the variation within a given kind of livestock. Yearling steers, dry cows, and weanling calves are classes of cattle, while nursing ewes with lambs and yearling lambs are classes of sheep.

During the spring and early summer growth periods, there are differences in how the kinds and classes of livestock graze. Cattle and horses prefer succulent grasses and then selectively graze among those. They often pass up available forbs while grazing, but eat some of them. Nursing cows with calves stay relatively close to water and travel only far enough to meet their forage requirements. Yearling cattle also prefer grasses but may travel great distances and cover a grazing area much more completely. Horses too may cover long distances. Steepness of terrain or distance from water is relatively unimportant for them.

Sheep, by contrast, prefer forbs, sometimes referred to as "weeds", over grasses if given free choice. In the absence of forbs they do well on young tender grass growth. When grasses begin to turn coarse as they mature, sheep (especially growing lambs) have a difficult time meeting their forage requirements. Spring bands, that is bands of nursing ewes with young, are moved rapidly over a grazing area and then on to another area in a continuous search for fresh tender growth. That way, the maximum weight gain is made on the lambs. Yearling sheep bands are not moved as rapidly as the mixed bands and utilize available forage much more completely.

Cattle and horses normally remain on a grazing allotment for the entire grazing period. Sheep normally migrate from lower elevation ranges in the spring to higher elevation ranges on or near the Sawtooth National Forest for the summer. The lambs are sold and shipped in late summer. As the weather worsens in the high country, bands of dry ewes are trailed back to the home ranches stopping to graze on public land if fall "green-up," which is new growth from fall rain, occurs.

The effects to the vegetation complex which occur from grazing the different kinds and classes of livestock permitted in the planning area shown in Table 4.5.

**Upland Vegetation Response to Existing Grazing Management.** Livestock grazing effects were analyzed in two grazing environmental impact statements and one resource management plan/environmental impact statement. However, in the interval of time since proposed periods of grazing use and/or kinds of livestock were analyzed in those documents, important changes have occurred which have not been analyzed. These changes have occurred for a variety of reasons. Transfers of grazing permits to new permittees with different needs, conversion from sheep to cattle because of the high labor costs with sheep, requests for winter grazing to reduce hay purchase expenses are a few examples of the many and varied reasons for departure from the proposed grazing regimes spanning a dozen years.

Estimates of vegetation impacts resulting from the authorized grazing practices are based upon cited range research studies in "General Vegetation Response to Periods of Grazing Use", and professional judgment. Although the studies were not performed within the planning area boundaries, they are believed to be applicable to the planning area because they consider basic plant needs. When plant needs for food, reproduction, and establishment are provided, similar responses result regardless of location (Martin 1975).

**TABLE 4.5**  
**Effects on the Vegetation Complex from**  
**the Kinds and Classes of Livestock**  
**Permitted on Public Land**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Kind or Class of Grazing Livestock	Expected Long-term Effect on Vegetation and Soil
Repeated Grazing of the same Upland area Year after Year by Cattle and/or Horses	Favors forb component over grass component. Vegetation gradually moves toward increased forbs. Grasses are reduced. Shrubs, if present, increase. In addition, soil compaction increases.
Repeated Grazing of the same Upland area Year after Year by Sheep	Favors grass component over forb component. Vegetation gradually moves toward a "grassland", being "species poor" with forbs. Shrubs may increase.
Grazing by Mother Cows with Calves, and Bulls	Grazing distribution normally is uneven. Areas near watering places are quickly over-utilized; areas far from water may not be grazed at all. Riparian areas are negatively impacted. Soil compaction is a serious problem on wet or moist soils.
Grazing by Yearling Cattle (Steers or Heifers) and Horses	Grazing distribution is somewhat even. Areas near water are normally over-utilized; areas far from water are utilized. Fences, gates, and cattleguards are often "tested" by yearling cattle and straying may become a serious problem. Riparian areas are impacted but not as quickly or to the degree as with cows, calves and bulls. Soil compaction is a problem on wet or moist soil.
Grazing by Sheep with Lambs	Grazing is concentrated but of short duration. Unless one band follows on the heels of the preceding band, regrowth occurs. By the end of June, it is difficult to tell if grazing has occurred on a normal moisture year. Riparian areas seldom show grazing effects because the animals are herded and by nature prefer dry areas over wet or moist areas.
Grazing with Yearling Sheep	Grazing seldom occurs in the same area for long periods so repeated grazing of the same plants normally does not occur. Regrowth to nearly full production occurs on normal moisture years. Riparian areas are easily protected by herding.

Existing authorized grazing use periods, which allow livestock grazing during all the grazing use periods described in Table 4.4, are shown in Table 4.6. To facilitate analysis, allotments are grouped in Table 4.6 by change of grazing use period from the old land use plans or grazing environmental impact statements to the present time. That table also shows one-year vegetation impacts resulting from the changes of use periods. The effects of grazing defoliation shown in Table 4.6 were considered when determining the magnitude or degree of impact to the vegetation. Three principal plant responses to grazing, vigor, seed production, and litter accumulation are described. The footnotes of Table 4.4 should also be carefully reviewed. Table 4.7 shows the effect(s) on the vegetation and soil resources of converting from one kind of livestock to another kind.

Impacts to vegetation from livestock grazing are difficult to evaluate. Because of the interrelationship between season, kind and numbers, the positive effect of a season change may be neutralized by the negative impact from a change in kind or numbers. Because of this interconnection, the impacts of these three livestock factors need to be considered together. Considering the combined effects of livestock kind, season of use, and stocking numbers, this alternative would result in a negative impact to vegetation on 599,800 acres, a positive effect on 3,100 acres, while the rest of the planning area would show no change from the current situation. Negative impacts would be reflected in decreased vegetation vigor, seed production, productivity and diversity.

When reviewing the collective impacts to upland vegetation in Table 4.6 and upland and riparian vegetation in Table 4.7, the reader may incorrectly conclude that a single grazing year could impact the vegetation beyond its ability to recover. Hormay (1970) pointed out that perennial plants normally store enough food to last for several years, so that even if the plants are defoliated by grazing for a year or two, they do not die unless weakened by drought, insects, or a history of excessive defoliation. Under a grazing program that allows continuous close grazing year after year during the green period, perennial plants cannot make and replenish food reserves. As a result, the reserves are ultimately depleted and the plants die. However, by periodically resting the plants from grazing defoliation, the basic needs of forage plants can be met. Hormay concluded that one or two years of growing season rest are usually adequate to restore plant vigor in perennial forage grasses. However, Kovalchik and Elmore (1991) found that willows in riparian areas need three or more years rest from heavy grazing. Riparian sedge communities may be degraded, if not rested adequately from grazing to protect them from erosion during rapid water runoff from summer storms or spring snowmelt events.

The increase in stocking rate from the nine-year average actual use to the full preference level would reduce annual livestock industry operating costs by \$199,300 per year. This assumes that the industry has been pasturing on private land the difference between the average actual use and the full preference level.

Management Concerns

TABLE 4.6  
 The Estimated Effects of Changing Grazing Use Periods  
 from Existing Land Use Plans to Present Permitted Periods  
 Bureau of Land Management  
 Shoshone District, Idaho

Allotment Name	Original Period of Use To Present Period of Use	Effects on the Upland Vegetation Available and/or Consumed as Forage
Dempsey, Fairfield	From Late Spring to Early and Late Spring	Vigor and seed production improved, standing dead litter accumulation reduced; overall positive effect.
Camp III, Ticeska	From Early and Late Spring to Early and Late Spring and Late Fall	Vigor, seed production, and litter accumulation improved with less spring use; vigor and reproduction not significantly affected but litter accumulation reduced by fall use; overall positive effect.
101	From Early and Late Spring to Early Summer through Early Spring (yearlong, except for Late Spring)	Vigor and reproduction reduced; standing dead litter accumulation reduced; deer winter range greatly affected; overall negative effect.
Spillway, The Pasture	From Early or Late Spring through Late Summer to Early or Late Spring through Early Summer	Root and shoot growth are reduced by defoliation, less robust root system; herbage production reduced; vigor and seed production reduced; overall slight negative impact.
Seven Mile	From Early Spring and Late Summer to Early Spring and Early Fall	Seed trampling reduced, seed production improved; root and shoot growth improved; overall slight positive effect.
Black Canyon	From Early Spring through Late Summer to Early Spring through Late Summer and Late Fall	Root and shoot growth slightly improved; herbage production improved; Deer winter range slightly affected; overall slight positive effect.
Antelope, Barren, Gunnery, Macon Flat	Early or Late Spring and Early Fall through Winter to Early and Late Spring	Vigor, seed production, and litter accumulation greatly reduced; overall negative effect.
Indian	Early and Late Spring and Early and Late Fall to Early Spring through Late Fall	Vigor, seed production, and litter accumulation greatly reduced; overall negative effect.
Tunupa	Early and Late Spring and Early and Late Fall to Late Fall through Early Spring	Vigor and reproduction improved; standing dead litter accumulation reduced; deer winter range greatly affected because little forage is available; overall negative effect.

Allotment Name	Original Period of Use To Present Period of Use	Effects on the Upland Vegetation Available and/or Consumed as Forage
West Bliss	Early and Late Spring and Early and Late Fall to Late Fall through Late Spring	Vigor and reproduction improved; standing dead litter accumulation reduced; deer winter range greatly affected because little forage is available; overall negative effect.
Common, Hazelton, Pot Hole	Early Spring through Winter to Early and Late Spring	Root and shoot growth slightly improved; herbage production improved; Deer winter range improved because of less competition for forage; overall slight positive effect.
Hash Springs, Kinzie Butte	Early or Late Spring through Early Summer or Late Fall to Early Spring through Early Summer	Vigor, litter accumulation slightly improved; fall regrowth potential; overall slight positive effect.
Curtis Lake, Davis Mountain, Hot Springs	Early Spring through Late Fall to Early and Late Spring and Early and Late Fall	Vigor, seed production, and litter accumulation greatly improved; overall positive effect.
Canyon, West Pioneer	Early Spring through Early Fall to Late Fall through Early Spring or Summer	Vigor and seed production improved; standing dead litter accumulation reduced; deer winter range greatly affected; overall negative effect.
Milner Plot, North Slope	Late Spring through Early Fall to Early or Late Spring through Early or Late Fall	Vigor and seed production reduced; Root and shoot growth slightly reduced; herbage production reduced; overall negative impact.
Soldier	Early Fall to Late Spring through Early Summer and Early Fall	Vigor and reproduction reduced; standing dead litter accumulation slightly improved; overall negative effect.
Pioneer	Yearlong to Early and Late Spring and Early and Late Fall	Vigor and seed production improved; standing dead litter accumulation improved; deer winter range improved; overall positive effect.

## Management Concerns

**TABLE 4.7**  
**The Effects of Changing Kind of Livestock**  
**from Existing Land Use Plans to a Different Kind**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Allotment Name	Original Kind of Livestock to Present Kind of Livestock	Effects on the Vegetation, Soil, and Other Resources
Antelope, Camp I (partial), Common, Gunnery	From Sheep to Cattle	Reduced forb or shrub defoliation; increased grass defoliation; increased soil compaction; increased visual impact; reduced fire potential.  Allotments converted have shown some negative effects.
Base Line (partial), Hazelton	From Cattle to Sheep	Increased forb or shrub defoliation; reduced grass defoliation; reduced soil compaction; reduced visual impact.  Allotments converted have shown positive effects.
Hog Creek, King Hill, Kinzie Butte, Long Gulch, Mink, Northside	From Cattle and Sheep to All Cattle	Reduced forb or shrub defoliation; increased grass defoliation; increased soil compaction; increased riparian impacts; increased visual impacts.  Allotments converted have shown some negative effects.
Hash Springs	From Cattle, Sheep, and Horses to Cattle Only	Reduced forb or shrub defoliation; increased grass defoliation; increased soil compaction; increased riparian impacts.  Allotment converted has shown some negative effects.
Pioneer, West Pioneer	From Cattle, Sheep, and Horses to Cattle and Horses	Reduced forb or shrub defoliation; increased grass defoliation; increased soil compaction; increased visual impacts.  Allotments converted have shown some negative effects.

1 Partial conversion of grazing preference from one kind of livestock to another.

*Expand fishing opportunities to accommodate at least 50,000 visitor days of fishing use and increase by 50 percent the number of desirable catchable fish in streams, canals and reservoirs by improvement of habitat and supplemental stocking [16.03].*

Applicable aspects of this management action are analyzed under the wetlands and riparian actions on page 161.

*Construct a hiking trail to the top of Black Butte and develop a rest area and parking adjacent to Highway 75 at the Black Butte trail head [17.01].*

Construction of the parking area and hiking trail, at a cost \$17,500, would increase visitor use by 1,500 visitor hours per year. Vandalism would increase by one incident per year. Littering is expected to rise proportionally with the increase in visitor use. The increased visitor use would contribute \$780 to the local economy.

*Expand the parking and camping facilities at Mormon reservoir to provide for a one-time use capacity for 50 vehicles [17.14].*

The parking area at Mormon Reservoir would disturb one acre. Cost of the parking area would be \$35,000. No increase in visitor use is expected from expanded parking. Availability of parking is not a limiting visitation factor at the site.

The analysis of camping was based on the Mormon Reservoir recreation scenario in Appendix B (page 296). Construction of the recreation facilities at Mormon Reservoir would cost \$24,000.

The recreation sites at Mormon Reservoir would disturb 22 acres. Development of potable water at the facility would increase ground water use by 74,000 gallons per year. This is less than 1 percent of the water that can be pumped from one domestic or stock water well without a state permit.

Visitor use would increase by 3,100 visitor hours per year (7 percent) at Mormon Reservoir. The increased visitor use would contribute \$2,800 annually to the local economy. Human-caused fires and vandalism would increase by one incident each as visitor use increased.

*Allow oil and gas leasing, providing for protection of the environment through adequate lease stipulations [24.00].*

The analysis of this action was based on the oil and gas development scenario in Appendix B (page 280). Cross country travel during geophysical survey activities would disturb 298 acres. Drilling operations would disturb eight acres for the drill pads and another 50 acres for access roads. Wind erosion from the surface disturbance would be 15 tons per year.

Once the field was developed, surface disturbance would decline to 13 acres. Areas disturbed during exploration would be rehabilitated to their previous condition. Wind erosion would decline to three tons per year.

For leasable minerals, 252 acres are stipulated for no surface occupancy during exploration and development. The remainder of the planning area is stipulation free except for motorized vehicle limitations and closures.

*Intensively manage areas that are capable of timber production [27.00].*

The analysis of this action was based on the Timber Harvest scenario in Appendix B (page 303). The scenario harvest techniques would result in a localized seasonal addition of smoke, dust, and noise. None of the effects on air quality would be significant or long term.

All of the scenario acreage on public land has a Timber Production Capability Classification of either problem reforestation or problem reforestation on fragile sites. The proposed use of ponderosa pine to revegetate harvested areas may minimize those problems. Ponderosa pine also possesses the ability as a seedling to withstand prolonged drought, with soil moisture content very close to, or even below, the permanent wilting point.

Wildlife habitat on public land would not be substantially degraded. The size of the cutting units on public land (less than 40 acres each) would leave resident and migratory birds impacted little, if at all,

since these small isolated blocks would not change enough habitat to substantially alter their use.

The proposed removal of timber from public land would not have a significant effect on water quality or fisheries as the nearest cutting units to Big Deer Creek would be over 1,300 yards to the east, and 500 yards to the west. Additionally, the removal of approximately 63 tons per acre (based on removal of 80% of the standing dead timber) of heavy fuels would reduce the potential for intensive wild fires and would therefore help to alleviate potential impacts to water quality in the event of a wild fire.

The initial stretch of new road proceeding across Big Deer Creek and southeast up the unnamed drainage beginning in the NE $\frac{1}{4}$  of Section 17 would be within 75 yards of the drainage bottom and would eventually cross that drainage. The effects of this proximity to a drainage bottom would be mitigated through the use of *Idaho State Forest Act* road construction standards. Drainage patterns would be modified and sedimentation in Big Deer Creek could increase causing increased bank erosion, increased substrate imbeddedness, and a decrease in the quality of fisheries habitat. The majority of these impacts are believed to be short-term in nature (up to four years).

The timber sale would neither increase nor decrease the number and size of forest openings and thus would not alter project area biodiversity in terms of degree of patchiness. Invasion by non-natives and weeds is expected to occur on areas disturbed by this project.

Two-year-old Douglas-fir seedlings currently exist incidentally along the steeper, northerly aspects of the scenario area (approximately 100 acres on both state and public land). Reducing the amount of shade provided by dead standing trees would increase the potential for moisture stress and mortality for these seedlings for the next several years. Conversely, soil disturbance resulting from harvest activities would expose mineral soils and increase the potential for natural regeneration of Douglas-fir and ponderosa pine.

## Impacts of Alternative B

The following is a description of the environmental impacts of Alternative B. The impacts are grouped first by issue and then by management action responding to the issue. Cumulative impacts, by resource, for each alternative are presented in Table S-1 in the front of this document.

- Issue 1: How will the BLM continue to focus management attention on riparian resources and related uplands?

Many public comments regarding the management of riparian/upland areas and water quality were received. Comments included praise for the current riparian management policies and achievements, and suggestions for expanding the pilot management efforts to the entire resource area. Comments regarding livestock use ranged from satisfaction with the current management level to dissatisfaction and urging more intensive livestock management. Riparian management is of primary concern to the BLM, as shown in the BLM's Riparian Management Policy (Fish and Wildlife 2000, 1987), and has received considerable management attention in the Bennett Hills Resource Area, as demonstrated by the Thorn Creek Pilot Riparian Management Area and other "showcase" riparian achievements. Of concern to the public and the BLM is the continued and expanded attention to riparian and upland resources.

\*The following management actions are made in this alternative to address Issue 1. The impacts of each decision immediately follow the management action.

*Achieve a desired future vegetation condition (Table 2.2) across the planning area by the end of the 20-year planning horizon, by a combination of livestock and fire management, and vegetation manipulation [1.00].*

The analysis of this management action was based on the vegetation manipulation scenario in Appendix B (page 290), the application of livestock best management practices as identified in the State of Idaho Water Quality Antidegradation Management Plan, and on the recommended grazing periods shown in Table A-1 of Appendix A.

## Desired Vegetation Condition and Vegetation Manipulation

Vegetation manipulation analysis is presented as two scenarios. The first scenario assumes a moderate expenditure of \$1,117,000 for vegetation manipulation. The second scenario assumes a high expenditure of \$1,698,000. Analysis of these two scenarios depicts the incremental changes resulting from additional expenditures.

Vegetation manipulation would occur on 40,290 acres for the moderate cost scenario and 55,360 acres for the high cost scenario. These actions would occur over the 20-year planning horizon. Vegetation community composition changes would be accelerated by planned use of seeding and/or hand planting of desirable plant species and the use of prescribed burning, mechanical shrub removal, or herbicide application. The latter three practices would be used mostly as pre-treatments to improve the probability of success in the seeding/planting phase. In certain instances, they would be used alone, or together, to reach a specific vegetation objective. All treatments would follow the Vegetation Management Plan referred to in Management Action 1.02.

**Upper Bennett Hills and Camas Geographic Reference Areas Vegetation Manipulation Actions.** Sagebrush composition in the planning area has extremes of too much in some areas and too little in others. In the Camas and Upper Bennett Hills reference areas sagebrush is too abundant and does not provide the diversity necessary for wildlife habitat and visual quality. Selective control of sagebrush dominance in a mosaic patchwork would produce uneven-aged stands of shrubs with understory vegetation in abundance. Such a condition would better meet the needs of the various users of the public land within the multiple-use framework.

In the Camas and Upper Bennett Hills Geographic Reference Areas, burning would be used to release desirable understory grasses and forbs on 5,600 acres.

Wild fire would also release understory grasses and forbs, and help create uneven-aged stands of shrubs. These non-uniform shrub areas provide habitat for wildlife, forage for livestock, variability in the visual

resource, and variability in the plant root pattern and mass. Variability in root pattern and mass protects the land from erosion over the long-term.

Prescribed fire activity would increase air particulate matter by 15 tons of fuel per burning hour. The actual smoke plumes would exceed National Ambient Air Quality Standards. However, under the prescribed meteorological conditions, the national standard for 24-hour average concentration of respirable particulate matter, 150 micrograms per cubic meter of air, would not be threatened (Dames and Moore, 1992).

Limited use of approved chemicals on 1,400 acres in the Camas and Upper Bennett Hills Geographic Reference Areas is anticipated, under either scenario. Selective chemical control of thick stands of sagebrush could occur. Pre-emergence, or post-emergence treatment of less desirable introduced annual grasses and forbs may be necessary.

After one of the treatments described above, most sites would not require seeding or planting because most sites would have sufficient native stands of herbaceous understory plants that would respond to release from sagebrush dominance. Seeding and/or planting would be required on 950 acres not having sufficient desirable native plant species. This would be especially true following a very hot wild fire. Normally, seeding/planting would occur on only part of the total treatment area.

Approximately 48 animal unit months per year of livestock use would be temporarily reduced in vegetation treatment areas in the Camas and Upper Bennett Hills Geographic Reference Areas. Livestock grazing would decrease on a given treatment area in the short-term, but not in the long-term. Over the 20-year planning horizon, some areas would be treated; later, those areas could be grazed, while other areas would be treated. These temporary reductions in available forage would increase annual livestock industry operating costs by \$800 per year in the Camas and Upper Bennett Hills areas.

In the Camas and Upper Bennett Hills Geographic Reference Areas, the primary erosion hazard is from water. Soil disturbance from vegetation manipulation would increase erosion by either wind or water on 390 acres per year. The probability of increased

water erosion from a treatment area is highest immediately following the treatment, and decreases during the second and third years. Erosion would increase to 0.25 tons per acre per year during the short-term, returning to the pre-burn rate in the mid-term, and falling to .01 tons per acre per year in the long-term. Based on an average rate of 390 acres per year of soil disturbance, erosion/deposition would increase approximately 98 tons per year in the short-term. As seedlings reach full production, erosion would decrease by 4 tons per year from the pre-treatment rate.

Application of intensive livestock grazing management improves upland stability and vegetation cover. Stable uplands with adequate vegetative cover, especially grass and forb cover, generally yield low amounts of sediment. Fibrous root systems of herbaceous plant species allow rapid moisture infiltration and percolation to depth, so overland water flow and consequent erosion is slowed, or eliminated. Improvements in the upland vegetation would reduce off-site sedimentation by 240 tons per year in the Camas and Upper Bennett Hills areas. Total off-site sedimentation decrease in these reference areas as a result of pursuing vegetation management objectives is 244 tons per year. The economic benefit of keeping soil in place would be between \$87 and \$1,400 per year depending on the site specific situation (Feichtinger, SCS, personal communication, 1993).

#### **Lower Bennett Hills and Snake River Plain Geographic Reference Areas Vegetation**

**Manipulation Actions.** Within the last 20 years a significant portion of these areas have lost all or most of the shrub component because of repeated wild fires. Wild fire is followed by an increase in cheatgrass and associated annual grasses and forbs (weeds; sometimes noxious). Shrub restoration is an important part of multiple-use management on this part of the planning area. The objective is to create the needed vegetation composition and structural diversity to support all land uses.

Prescription burning on 11,400 acres would be conducted as a pre-treatment for seedlings promoting desired future vegetation condition objectives. Rehabilitation of 5,900 of the 8,815 acres burned by wild fire in the Lower Bennett Hills, Snake River

Plain and Snake River Rim Geographic Reference Areas provides an opportunity to replace vegetation communities containing less desirable introduced annual grasses and forbs with vegetation consistent with desired future vegetation condition objectives.

Prescribed fire activity would increase air particulate matter by 15 tons of fuel per burning hour in the rest of the planning area. The actual smoke plumes would exceed National Ambient Air Quality Standards. However, under the prescribed meteorological conditions, the national standard for 24-hour average concentration of respirable particulate matter, 150 micrograms per cubic meter of air, would not be threatened (Dames and Moore, 1992).

Under the moderate cost scenario, 500 acres may be chemically treated for seedbed preparation prior to seeding/planting desired plant species. Under the high cost scenario, 1,000 acres would be chemically treated in the rest of the planning area.

Limited use of a brushland plow to remove over-dense brush stands could occur on 7,460 acres in the Lower Bennett Hills, Snake River Plain and Snake River Rim Geographic Reference Areas. This treatment would be to prepare a seedbed to seed and/or plant desired grasses, forbs and shrubs.

After the treatments and wild fire described above, seeding and/or hand planting desired grass, forb, and shrub species would be a very important part of the move to the desired future vegetation condition. This action would occur on 150,300 acres over the life of the plan. Most existing plant communities within these areas do not have enough desirable native or introduced perennial plant species remaining to meet objectives. For that reason, seed or seedlings must be either introduced, or reintroduced to the area.

Approximately 3,400 animal unit months of livestock use per year would be temporarily reduced in vegetation treatment areas. Livestock grazing would decrease on a given treatment area in the short-term, but not in the long-term. Over the 20-year planning horizon, some areas would be treated; later, those areas could be grazed, while other areas would be treated. This does not reflect a straight-line approach to yearly treatments. Rather, it reflects an average treatment sequence per year, for 20 years. These

temporary reductions in available forage would increase annual livestock industry operating costs by \$17,400 per year.

Seeding activities would disturb the soil surface on 7,500 acres per year. The primary erosion hazard in these geographic reference areas is from wind, but water erosion can be a problem on sloping land. Erosion would increase to 0.25 tons per acre per year during the short-term, returning to the pre-burn rate in the mid-term, and falling to .01 tons per acre per year in the long-term. Based on an average rate of 7,500 acres per year of disturbance, erosion, deposition would increase by 1,825 tons per year in the short-term. As seedings reach full production erosion would decrease by 75 tons per year from the pre-treatment rate.

Vegetation improvements in the Lower Bennett Hills, Snake River Plain and Snake River Rim Geographic Reference Areas, from treatments and application of livestock best management practices, would reduce off-site sedimentation by a total of 4,850 tons per year. The economic benefit of keeping soil in place would be between \$1,650 and \$26,680 per year, depending on the site specific situation (Feichtinger, SCS, personal communication, 1993).

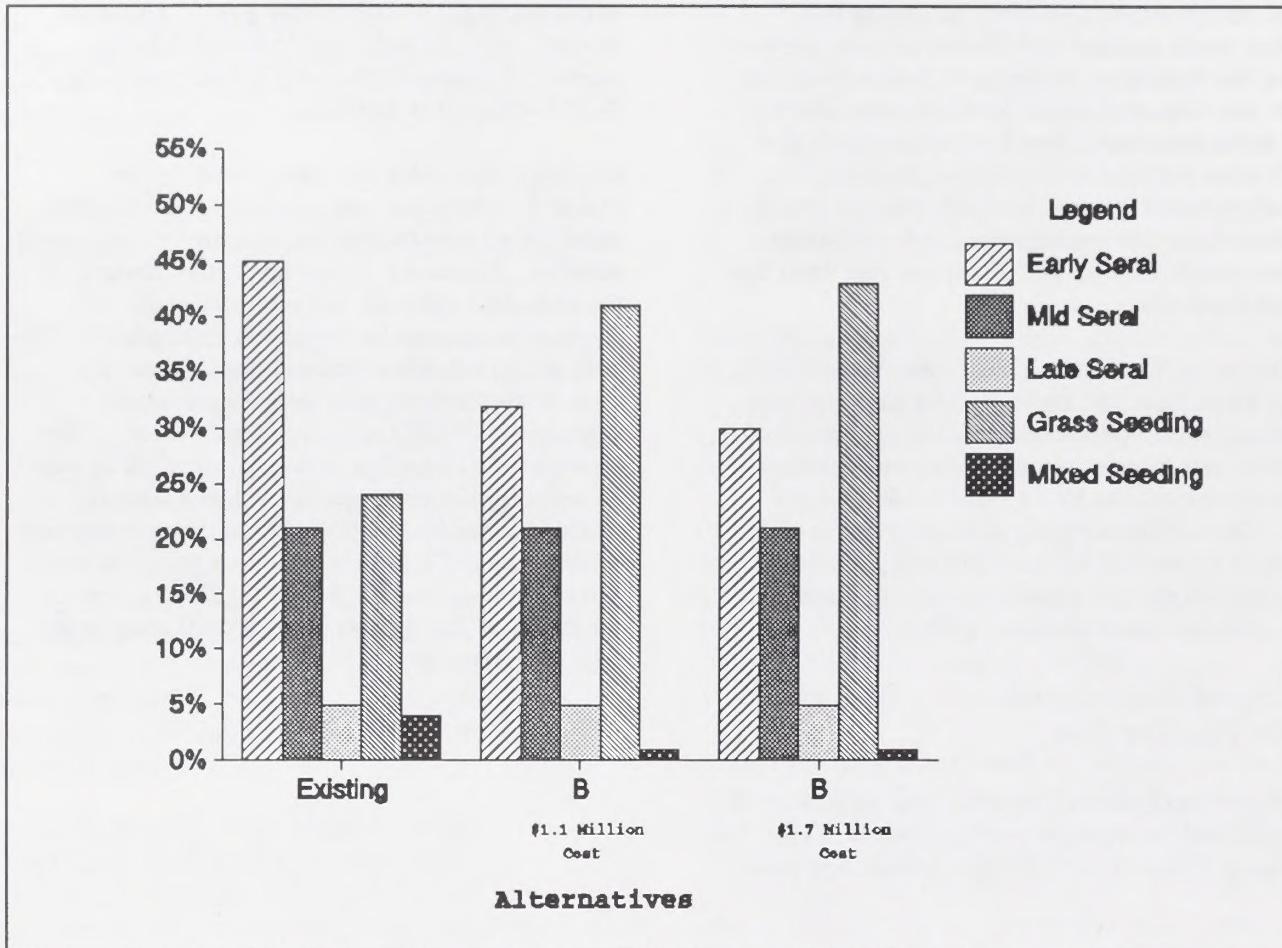
### **Ecological Status for the Entire Planning Area**

Vegetation manipulation, wild fire, and application of livestock best management practices would change the vegetation composition of shrubs, grasses, and forbs.

Species-rich seedings following the desired future vegetation condition objectives of this plan would result in more mixed vegetation communities. These communities would have greater diversity of plant cover types, community structure, and generally improved production of desirable grasses and forbs. The acres affected by these actions are labeled as mixed seedings. However, any gain in vegetation diversity and production would be offset by the increase of livestock use to full preference levels of 79,777 animal unit months.

Generally, the ecological status would decline. Figure 4.1 shows the relative changes in ecological status for all four alternatives compared to the present situation. Figure 4.2 shows the relative changes in the ecological status for Alternative B at the two levels of investment for vegetation manipulation. The early ecological status would decrease by 88,470 acres in the moderate cost scenario and would decrease by 100,520 in the high cost scenario. The acres in the mid and late seral ecological status would be unchanged in either scenario. Grass seedings would increase by 110,870 acres in the moderate cost scenario, and 122,820 acres in the high cost scenario. Mixed seedings would decrease by 22,400 acres in the moderate cost scenario, and 22,300 acres in the high cost scenario.

**FIGURE 4.2**  
 Percent of Ecological Status for Alternative B  
 by Investment Level at the End of 20 Years  
 Bureau of Land Management  
 Shoshone District, Idaho



Vegetation production and cover would not change from current conditions as a direct result of planned vegetation manipulation, wild fire rehabilitation and application of intensive livestock management. Impacts to vegetation at the higher stocking rate would be more in line with the impacts described in Alternative A (see page 159). There would be some slight improvements to vegetation, however the desired future vegetation condition would not be achieved within the planning horizon.

The continued trend toward monoculture grass seedings would reduce the quality of wildlife habitat in the planning area. Big game populations would decline resulting in decreased hunter activity. Hunter activity would decline by as much as 4,596 hunter days each year at the end of the 20-year planning horizon. This decline in hunter days would decrease income to the local economy by \$176,300 each year.

*Manage wetlands and riparian areas to improve or maintain water quality [2.00].*

**Riparian Areas-Form and Function:** The U.S. Environmental Protection Agency, in a publication entitled *Livestock Grazing on Western Riparian Areas* (*Livestock Grazing...*, 1990) summarized riparian functions, values, and concerns.

Riparian areas are parcels of land where vegetation is strongly influenced by the presence of water.

Riparian areas may comprise less than 1 percent of the area in the western United States, but they are among the most productive and valuable of all land.

The presence of water and green vegetation makes riparian areas attractive and important to domestic livestock when grazing adjacent, drier uplands. Fish, of course, are totally dependent upon the surface waters within riparian areas. These areas are the most important habitat for the majority of western wildlife species, and are essential to many. In a study in southeastern Oregon, Crouse and Kindschy (1981) found that 280 of 360 terrestrial wildlife species use riparian zones more than any other habitat.

Many other values of riparian areas are not as well known and commonly are misunderstood. While occupying relatively small areas of land, riparian areas can strongly influence how watersheds function. By influencing the timing and quality of water produced, the condition of riparian areas can have significant, far-reaching economic and environmental consequences.

Diversity of vegetation is an important characteristic of riparian areas in good condition. Woody and herbaceous plants slow flood flows and provide a protective blanket against the erosive force of water. Their foliage shields the soil from wind and sunlight, which keeps soil temperatures low and reduces evaporation. They produce a variety of root systems that bind the soil and hold it in place.

Riparian vegetation filters out sediment which builds stream banks and forms productive wet meadows and floodplains, and reduces sedimentation of downstream reservoirs and stream courses.

Riparian areas in good condition hold groundwater in place and slowly release water to stream channels, thus increasing seasonal quantity and quality of water, and leveling out maximum and minimum flow levels.

The inherent productivity of riparian land, the proximity of water, and relatively gentle terrain attract a wide variety of human activities. Consequently, riparian areas are the most modified land type in the West. Riparian functions and values have been widely and severely impacted by humans. The resulting economic and environmental costs have captured the attention of growing numbers of people concerned about the long-term productivity of western watersheds.

The characteristics of degraded and restored riparian areas are shown in Table 4.8. Over the last 100 years a high percentage of western riparian areas have been damaged; some have been so degraded they cannot be restored to their former productivity. But improvement can occur with careful consideration for their fragile, but resilient nature.



**TABLE 4.8**  
**General Characteristics and**  
**Functions of Riparian Areas**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Degraded Riparian Areas	Restored Riparian Areas
<ul style="list-style-type: none"> <li>● Little vegetation to protect and stabilize stream banks and shade streams.</li> <li>● Lowered water table and saturated zone, reduced subsurface water storage.</li> <li>● Reduced or no summer stream flow.</li> <li>● Warm water in summer and icing in winter.</li> <li>● Poor habitat for fish and other aquatic organisms.</li> <li>● Poor habitat for wildlife.</li> <li>● Reduced amount and quality of livestock forage.</li> </ul>	<ul style="list-style-type: none"> <li>● Diverse vegetation and root systems protect and stabilize stream banks, stream shaded.</li> <li>● Elevated water table and saturated zone, increased sub-surface water storage.</li> <li>● Increased summer stream flow.</li> <li>● Cooler water in summer, reduced icing in winter.</li> <li>● Improved habitat for fish and other aquatic organisms.</li> <li>● Improved habitat for wildlife.</li> <li>● Increased quantity and quality of livestock forage.</li> </ul>

Source: EPA, 1990.

**Cattle Use Behavior in Riparian Areas:** The effects of livestock grazing on fish and wildlife habitat and watershed function provided by riparian vegetation have been well documented since Crouse and Kindschy (1981) and Platts (1981) published their observations and recommendations for improvement. Before 1980, little technical literature on livestock grazing-riparian ecosystem interactions was available. The following analysis is based on the reports of various authors who have reported on riparian areas in situations similar to those which occur in the Bennett Hills planning area. This literature review was not possible at the time the land use plans were developed in the late 1970s and early 1980s.

The vast majority of scientific literature on the subject of, or related to, livestock behavior shows an affinity by cattle for waterside riparian areas (Stoddart and Smith, 1955; Skovlin, 1965; Valentine, 1971; Satterlund, 1972; Stoddart, et al., 1975; Crouse and Kindschy, 1981; Platts, 1981; Kauffman et al., 1983a, 1983b; Platts and Nelson, 1983; Bedell, 1984; Marlow et al., 1989; Allen and Marlow, 1991; Clary

and Medin, 1991; Kovalchik and Elmore, 1991; Shaw, 1991).

Myers (1989) reported that cattle utilize riparian areas much more intensively than uplands in southwestern Montana. Riparian areas provide water, shade, forage diversity, rubbing sites, and sources of succulent forage that uplands provided only seasonally or not at all. Myers noted that riparian areas sustain almost all of the livestock use during July through early September. This period was referred to as the "hot season". Observations in the 34 study allotments showed good dispersal of cattle and use of uplands during spring through early summer until upland forage plants became less succulent, approximately July 1. Some dispersal of stock occurred in September in response to cooler temperatures and especially in response to fall precipitation and fall "green up", or the breaking of drought-induced dormancy. However, fall dispersal was not as significant as that of spring and early summer.

Given the reluctance of cattle to disperse from riparian areas, the duration of grazing treatments is a

key factor in determining the degree of impacts such as trampling and mechanical damage, soil compaction, and utilization. In a rest-rotation system Platts (1981) noted significant riparian habitat alterations at 65 percent herbaceous forage utilization levels by cattle, but no detectable impacts at 25 percent herbaceous forage utilization by cattle.

Bedell (1984) reported the results of a study in the southwestern Blue Mountains of Grant County, Oregon which documented cattle behavior and effects on vegetation. On a U.S. Forest Service allotment, the riparian zone consisted of 1.9 percent of the total area but produced 21 percent of the total forage consumed, which was 11 times as much as the allotment-wide forage basis. This reflected cattle behavior more than site productivity. The cattle preferred the riparian zone over the uplands. Over the whole grazing season, forage production declined to lower levels in the riparian areas compared to uplands. Most of the cattle remained on the riparian zone suggesting less daily forage intake and less daily weight gain or body maintenance.

**Management Strategies for Riparian Areas:** Increased concern for stream channels and associated riparian habitats has forced reevaluation of how streams and adjacent landscapes should be managed (Crouse and Kindschy, 1981; Platts, 1981; Platts, 1983; Platts, 1984; Platts and Nelson, 1983; Kauffman, et al., 1983a, Kauffman, et al., 1983b; Jackson and Van Haveren, 1984). However, because the problems of managing small streams are different and variable, simple or standardized solutions should not be expected (Beschta and Platts, 1986).

Allen and Marlow (1991) noted that while riparian plant communities comprise only about one percent of the total land area of the western United States, they provide a disproportionately greater amount of cover and forage for wildlife and livestock. Although most riparian forage is produced by sod-forming grasses or grass-like sedges in moist or wet soils, most grazing strategies have been developed for upland ranges dominated by bunchgrasses in water-limited soils. The extent to which grazing management systems, designed for upland sites, can be applied successfully to riparian sites is limited.

Historically, range managers have not distinguished between the different plant community types on the uplands from those of riparian ecosystems, and have typically subjected both groups to the same grazing management strategy. This management approach is still commonly used and has caused fisheries problems because of the disproportionately heavy use of stream-riparian zones by cattle. Kovalchik and Elmore (1991) and Myers (1989) report that grazing systems designed for uplands have not been effective in riparian zones. Rangeland researchers and managers have had difficulty developing grazing strategies that counter the unbalanced animal distribution patterns that develop when livestock concentrate in stream-riparian zones (Platts, 1989). In an extensive literature review, Platts (1981) was unable to identify any widely used grazing strategy compatible with the environmental needs of aquatic ecosystems.

Myers (1989) suggested approaches to riparian management must differ from the traditional approaches to management of uplands, which generally include deferred and rest-rotation principles with long duration grazing treatments, and frequent "hot season" and fall grazing.

Platts (1989, 1990) listed potential effects of grazing on aquatic/riparian habitats to be considered when grazing strategies for a given area are being formulated. Those effects, shown in Table 4.9 should serve as a partial checklist to help guide those who develop grazing systems, especially on areas supporting, or potentially capable of supporting, a viable fishery.

In addition, Platts (1989, 1990) evaluated 17 of the most commonly used livestock grazing systems or management strategies and rated them for such factors as utilization of riparian vegetation, grazing animal distribution, results to riparian components, and rehabilitation potential. That assessment is shown as Table 4.10

TABLE 4.9  
 Potential Effects of Grazing on Aquatic/Riparian Habitats to  
 be Considered When Grazing Strategies are Planned or Evaluated  
 Bureau of Land Management  
 Shoshone District, Idaho

Component of the Aquatic/Riparian Habitat	Nature of the Effect or Change
Stream banks	<ul style="list-style-type: none"> <li>● Shear or sloughing of stream bank soils by hoof or head action.</li> <li>● Water, ice, and wind erosion of exposed stream bank and channel soils because of loss of vegetative cover.</li> <li>● Elimination or loss of stream bank vegetation.</li> <li>● Reduction of the quality and quantity of stream bank undercutts.</li> <li>● Increasing stream bank angle (laying back of stream banks), which increases water width and decreases stream depth.</li> </ul>
Stream Water	<ul style="list-style-type: none"> <li>● Pollutants (e.g., sediments) in return water from grazed land, which are detrimental to the fisheries.</li> <li>● Changes in magnitude and timing of organic and inorganic energy (i.e., solar radiation, debris, nutrients) inputs to the stream.</li> <li>● Increases in fecal contamination.</li> <li>● Changes in water shape and size, such as increases in stream width and decreases in stream depth, including reduction of stream shore water depth.</li> <li>● Changes in timing and magnitude of streamflow events from changes in watershed vegetative cover.</li> <li>● Increases in stream water temperature.</li> </ul>
Stream Channel	<ul style="list-style-type: none"> <li>● Changes in channel shape and size.</li> <li>● Altered sediment transport processes.</li> </ul>
Riparian Vegetation	<ul style="list-style-type: none"> <li>● Changes in plant species composition (e.g., brush to grass to forbs).</li> <li>● Reduction of floodplain and stream bank vegetation, including vegetation hanging over or entering into the water.</li> <li>● Decrease in plant vigor.</li> <li>● Changes in timing and amounts of organic energy leaving the riparian zone from grazing.</li> <li>● Elimination of riparian plant communities (i.e., lowering of the water table allowing upland plants to replace riparian plants).</li> </ul>

Source: Platts (1989, 1990).

**TABLE 4.10**  
**Evaluation and Rating of Livestock Grazing**  
**Systems or Management Strategies as Related to**  
**Stream Riparian Habitats**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Grazing System or Management Strategy with Kind of Livestock	Level to Which Riparian Vegetation is Commonly Used	Control of Animal Distribution Within the Allotment	Results to Riparian Components			Overall Stream-Riparian Rehabilitative Potential	Overall Rating for Riparian Improvement <sup>1</sup>
			Stream Bank Stability	Brushy Species Condition	Seasonal Plant Regrowth		
Continuous season-long (cattle)	Heavy	Poor	Poor	Poor	Poor	Poor	1
Holding (sheep or cattle)	Heavy	Excellent	Poor	Poor	Fair	Poor	1
Short duration-high intensity (cattle)	Heavy	Excellent	Poor	Poor	Poor	Poor	1
Three herd - four pasture (cattle)	Heavy to Moderate	Good	Poor	Poor	Poor	Poor	2
Holistic (cattle or sheep)	Heavy to Light	Good	Poor to Good	Poor	Good	Poor to Excellent	2-9
Deferred (cattle)	Moderate to Heavy	Fair	Poor	Poor	Fair	Fair	3
Seasonal suitability (cattle)	Heavy	Good	Poor	Poor	Fair	Fair	3
Deferred-rotation (cattle)	Heavy to Moderate	Good	Fair	Fair	Fair	Fair	4
Stuttered deferred-rotation (cattle)	Heavy to Moderate	Good	Fair	Fair	Fair	Fair	4
Winter (sheep or cattle)	Moderate to Heavy	Fair	Good	Fair	Fair to Good	Good	5
Rest-rotation (cattle)	Heavy to Moderate	Good	Fair to Good	Fair	Fair to Good	Fair	5
Double rest-rotation (cattle)	Moderate	Good	Good	Fair	Good	Good	6
Seasonal riparian preference (cattle or sheep)	Moderate to Light	Good	Good	Good	Fair	Fair	6
Riparian pasture (cattle or sheep)	As Prescribed	Good	Good	Good	Good	Good	8
Corridor fencing (cattle or sheep)	None	Excellent	Good to Excellent	Excellent	Good to Excellent	Excellent	9

Grazing System or Management Strategy with Kind of Livestock	Level to Which Riparian Vegetation is Commonly Used	Control of Animal Distribution Within the Allotment	Results to Riparian Components			Overall Stream-Riparian Rehabilitative Potential	Overall Rating for Riparian Improvement <sup>1</sup>
			Stream Bank Stability	Brushy Species Condition	Seasonal Plant Regrowth		
Rest rotation with seasonal preference (sheep)	Light	Good	Good to Excellent	Good to Excellent	Good	Excellent	9
Rest or closure (cattle or Sheep)	None	Excellent	Excellent	Excellent	Excellent	Excellent	10

1 Rating scale is 1 through 10. A rating of 1 is poorly compatible with riparian vegetation, water quality and, where appropriate, fishery needs. A rating of 10 is highly compatible with those same needs.

Source: Platts(1989, 1990).

To further aid in developing successful riparian grazing management strategies, Table A-5, in Appendix A was developed. That table shows observations and recommendations from several authorities who evaluated dozens of management strategies in four states having riparian zones similar to those found in the planning area.

The timing, duration, and extent of livestock grazing are key factors affecting the success or failure of upland and riparian vegetation improvement to meet desired future vegetation condition goals. For that reason, proposed periods of grazing use are shown for every allotment in Table A-1, in Appendix A. Nowhere is the timing and duration of cattle grazing more important than in riparian zones. Allotments having riparian zones are indicated by an asterisk (\*) in the table. The grazing periods proposed are based on the research recommendations presented above.

The existing inventory of streams, while not complete, is a representative sample of the kind and condition of streams throughout the Bennett Hills planning area. Based on that inventory, 25 percent of the streams are presently in functioning condition and 75 percent are not. The goal of BLM's Riparian-Wetlands Initiative stating, "75 percent or more of the riparian wetland areas will be in proper functioning condition by 1997," cannot be met. However, that goal could be met by the end of the planning horizon.

Attainment of that 75 percent goal requires a total commitment by BLM and all permittees who graze their livestock on public land. Commitment means investment of time and money to assure grazing plans and schedules are strictly followed. Problems must be quickly discovered and solved to avoid damaging the riparian vegetation. Reaching the 75 percent goal for riparian area improvement and compliance with the *Federal Clean Water Act* requirements involves significant changes in livestock grazing practices. Livestock best management practices will become the normal manner of operation.

Riparian zones needing improvement through application of labor-intensive best management practices are found in 35 grazing allotments containing 454,000 acres of public land. About 1 percent of the public land acres are in riparian zones. This herding commitment for the allotments containing riparian areas would be 1,340 riding days at \$60 per rider and horse day. Annual livestock industry operating costs would increase by \$80,200 per year for an average cost per allotment of \$2,290. Small allotments would require much less, large allotments would require much more.

Application of structural best management practices would increase annual livestock industry operating costs by \$50,300 per year. Riparian fence and cattleguard maintenance would require 350 riding

days at \$60 per horse and rider day. In the early years, while fences and cattleguards were being installed, riding requirements would be similar to those for labor-intensive practices. Riding day requirements for maintenance of structural improvements would decrease from 1,575 riding days during year one to 350 riding days during year eleven and beyond.

Livestock best management practices would decrease livestock use on 4,410 riparian acres along 485 stream miles. This use would transfer concentrated grazing in riparian areas to dispersed grazing on uplands. At three acres of riparian vegetation per animal unit month, a total of 1,470 animal unit months of livestock use would be transferred to the uplands.

Hand planting of willows and carex plug placement would occur as part of the objective to improve riparian areas. An average of one mile of stream would be planted with adapted herbaceous and woody species each year over the life of the plan. The cost would be \$3,000 per year. Protecting the planting from livestock grazing would be required. Protection would be by application of one or more best management practices. Livestock use in the riparian areas would decrease by 250 animal unit months. Grazing use would transfer to the uplands where the increased use per acre would not be significant.

Stream bank stability would improve along 97 miles of perennial stream and 388 miles of stream that presently do not flow year-round. Woody and herbaceous vegetation, growing along the zone immediately next to the water, would overhang the water providing shade and nutrient recycling through leaf-fall. The shading provided by the vegetation overhang along perennial streams would decrease water temperatures by 4° Fahrenheit.

Stable banks and riparian zones with adequate vegetation cover yield little sediment; on the other hand, they trap and hold sediments originating elsewhere. Off-site sedimentation would decrease by 820 tons per year. The economic benefit of keeping soil in place would be between \$880 and \$4,500 per year depending on the site specific situation (Feichtinger, SCS, personal communication, 1993).

Fish habitat would improve along 97 stream miles. This assumes that 20 percent of the 485 miles of stabilized functioning riparian areas would be capable of supporting some kind of fishery.

Many niches for game and non-game species would be created with a multi-storied functional riparian ecosystem. The greatest potential for increased biodiversity lies in the "green zones" influenced by surface or subsurface water.

*Re-evaluate the existing road system to identify roads and trails where damage is occurring or may occur to riparian, wetlands and stream condition. Such roads will be rerouted, modified or closed to minimize damage to riparian zones, wetlands and stream crossings [2.06].*

Road modifications to avoid riparian areas would occur on about 40 miles over the life of the plan, at an average cost of \$1,000 per road mile. Re-routing roads that parallel streams would increase stream bank stability on four stream miles.

Road modifications would improve vegetation production and cover on 145 acres of riparian area. Stable banks and riparian zones with adequate vegetation cover yield little sediment. They trap and hold sediments originating elsewhere. Sediment trapping in the improved riparian areas would reduce off site-sedimentation by 30 tons of soil per year. The economic benefit of keeping soil in place would be between \$10 and \$170 per year depending on the site specific situation (Feichtinger, SCS, personal communication, 1993).

*Introduce beaver into areas that have appropriate water, food sources, and material for dam and lodge construction [2.08].*

DeBano and Heede (1987) noted that much has been written on riparian vegetation community structure and classification, plant succession, water consumption, and grazing-wildlife impacts and interactions, but little has been documented on the effects of channel structures including beaver dams on riparian ecosystems.

Beaver dams in channels create a favorable environment for improving or developing riparian communities. These dams affect the stream in several ways. Beaver dams often change a highly turbulent flow into a more tranquil one, thereby decreasing the erosional energies of the water flow. Also, flood water is spread over a wider area that reduces the velocity of stream flow and its ability to erode. The dams may also decrease peak water discharge during runoff events because dams have water storage capacity. Dams increase the amount of surface water and water is held in higher water tables, known as groundwater.

Beaver dams are not built according to the best engineering standards. They sometimes collapse because they are built without apron and bank armoring for protection below the structure, or freeboards to prevent high flows from cutting around the dam. When food supply or water diminishes, the animals may leave the stream reach, so the dams are no longer maintained. Later water runoff events may cause a dam to break, and the stream and riparian systems may be seriously damaged, because often when one beaver dam is lost, several downstream dams will also be demolished from high energy water-sediment surges.

The advantages and disadvantages of channel and bank protection structures in riparian zones should be recognized and utilized. Channel structures, whether man-made or made by beaver, that cause sediment deposition usually enhance riparian development. Given adequate protection, riparian communities can develop rapidly in these environments, because of more favorable moisture and nutrients and a reduction in stream flow velocity (DeBano and Heede, 1987).

The analysis of this management action was based on the beaver reintroduction scenario in Appendix B (page 301). Reintroduction would occur along 30 stream miles. Approximately 240 new beaver dams would be constructed during the life of this plan. Soil water saturation from pools behind beaver dams becomes available far beyond the actual pool limits. This effect would improve ground water infiltration on 275 acres. Improved ground water availability would allow abundant plant production and would

likely improve surface water flow downstream from the beaver dams.

Each of the 240 new beaver dams would trap, each year, the amount of soil lost to erosion on 320 acres. This does not include runoff events with the probability of occurring more than once in twenty years. The dams would keep 770 tons of soil per year within the watershed and would not allow downstream transport and sedimentation. Thick riparian vegetation on 275 acres, influenced by the backup of water from the dams, would slow water velocity. The decrease in velocity would allow suspended sediment to settle out, reducing off-site sedimentation by an additional 140 tons per year. The economic benefit of keeping soil in place would be between \$300 and \$5,000 per year depending on the site specific situation (Feichtinger, SCS, personal communication, 1993).

Reintroduction of beavers would increase stream bank stability and bank vegetation overhang along 30 stream miles. Increased bank overhang would decrease water temperatures by 4° Fahrenheit. Fish habitat would improve along three stream miles because only about 10 percent of the stabilized streams support a fish population. Stream bank vegetation overhang would be highly dependent on controlled livestock grazing. If grazing is not carefully controlled this positive benefit is not expected to occur.

*Placement of structures in stream channels to improve water quality by reducing sediment load may occur only after consideration of introduction of beaver or if no beaver are available for introduction [2.09].*

In-stream structures, such as sediment fences and gabions, would be placed in 20 stream miles at a cost of \$104,000. Slowing water behind small sediment fences would allow improved water infiltration and percolation to a depth where it would be available for riparian plant growth and surface water flow downstream. Improvements would occur on 60 acres of riparian zones along the treated streams. Mostly herbaceous vegetation (grasses, sedges, and forbs) would increase.

Small sediment fences may produce more streamside vegetation, reducing water temperature by  $\frac{1}{2}$  to  $1^{\circ}$  degree Fahrenheit. They would be considerably less effective than beaver dams. Sites targeted for sediment fences normally do not support woody vegetation. Shading of the stream is not as complete on these sites as for the sites where beaver would be reintroduced.

Each of the 520 sediment fences would trap one-third of a ton of sediment annually for a total 166 tons. These structures would not be as effective as beaver dams and would be considered only when beaver habitat is not present (insufficient woody vegetation). Most sediment would be caught by the 520 sediment fences themselves, but an additional 13 tons of sediment per year would be trapped by the improved streamside vegetation resulting from the sediment fences. This riparian zone is expected to be narrow and occupied mostly by herbaceous species. The economic benefit of keeping soil in place would be between \$60 and \$1,000 per year depending on the site specific situation (Feichtinger, SCS, personal communication, 1993).

*Biological water filtering systems on public land would be designed to create stable, relatively undisturbed, wetlands, riparian zones, and stream habitats [2.11].*

The analysis of this management action was based on the biological filtering scenario in Appendix B (page 289). Construction of the filtering systems would decrease vegetation production and increase soil compaction on 200 acres. Impacts to soils from heavy equipment movement during construction are short-term. No long-term impacts are expected. Dryland vegetation would be lost in the short-term, but 122 acres of wetland/grass would result in the long-term.

Construction and long-term protection of the systems would decrease livestock preference by six animal unit months. This is less than a 0.3 percent reduction in preference in the affected allotments. Annual livestock industry operating costs would increase by \$30. Grazing receipts to the Federal Government would decrease by \$8 based on the 1992 fee rate.

The operation of the filtering systems would reduce sedimentation in the Snake River by 640 tons per year. This would be between 0.5 and 18 percent of the total annual sediment load for the Middle Snake River (Idaho Department of Water Resources, 1993).

- Issue 2: What land will be acquired to, or made available for disposal from, federal ownership?

The Shoshone District has implemented a land exchange program with the State of Idaho designed to block up land ownership within wilderness study areas and for more efficient management. Land ownership adjustments are needed to achieve more efficient management and utilization of public resources.

The following management actions are made in this alternative to address Issue 2. The impacts of each decision immediately follow the management action.

*Make available for disposal from public ownership 3,015 acres by exchange only (map symbol B), 3,052 acres by sale or exchange (map symbol C), and 324 acres as State of Idaho In-Lieu selection (map symbol I) [3.00].*

Table 4.11 shows the decrease in wildlife habitat, and visual and recreation classes that would occur if the land identified for sale and In-Lieu selection is transferred from public ownership and converted to other uses. It is assumed that 3,052 acres of public land disposed of by sale (map symbol C on Map 2.3) and 324 acres by In-Lieu selection (map symbol I on Map 2.3) would be converted to commercial or agricultural (farming) uses.

TABLE 4.11  
 Decreases in Resource Values Resulting from  
 Land Tenure Adjustments of Alternative B  
 Bureau of Land Management  
 Shoshone District, Idaho

Kind of Resource Value Affected	Decrease from Sale and In Lieu		Decrease from Exchange		Total Decreases	
	acres	%	acres	%	acres	%
<b>Wildlife Habitat</b>						
Crucial Deer	278	<1	1,875	<1	2,153	<1
Yearlong Deer	155	<1	0	0	155	<1
Winter Elk	196	<1	123	<1	319	<1
Yearlong Elk	155	<1	0	0	6,198	<1
Crucial Antelope	12	<1	0	0	54	<1
Winter Antelope	456	<1	1,875	<1	2,331	<1
Yearlong Antelope	164	<1	0	0	164	<1
Crucial Sage grouse	10	<1	0	0	10	<1
Yearlong Sage grouse	155	<1	0	0	155	<1
<b>Visual Resource Management Class</b>						
Class II	240	<1	26	<1	266	<1
Class III	2,782	<1	2,491	<1	5,273	1
Class IV	330	<1	487	<1	817	1
<b>Recreation Opportunity Spectrum Class</b>						
Rural	0	0	415	0	0	0
Roaded Natural	3,107	3	2,278	2	5,385	5
Semi-primitive Motorized	177	<1	311	<1	488	<1
Semi-primitive Non-motorized	0	0	0	0	0	0

Disposal of public land by sale and In-Lieu selection would decrease the Federal Government's Payment In Lieu of Taxes to counties by \$340 each year. This loss of revenue would be replaced by tax payments made by the new land owner(s). The amount of new

tax payments is dependent on the value of the land and the use to which the land is converted. Because of the variability of values and uses, no estimate of the increase in taxes is made.

Disposal of public land by sale and In-Lieu selection would decrease grazing preference by 208 animal unit months and average actual use by 1,522 animal unit months. Grazing fee receipts to the government would decrease by \$440 per year. These decreases would occur only at the time of disposal. Until disposal occurs, the land would still be available for livestock grazing. Annual livestock industry operating costs would increase by \$1,700.

Land identified for exchange includes 431 animal unit months of grazing preference and an average actual use of 428 animal unit months. However, the land acquired through the exchange process would return some amount of grazing use.

Table 4.12 shows the acres of big game habitat on land identified for exchange. Private or state land received in exchange for public land may have value

as big game habitat. However, the acquired land may not have the same value or support the same species as the disposed public land.

None of the public land under Desert Land Entry is identified for disposal.

*Seek to acquire 2,749 acres of private land (map symbol J on Map 2.3) and associated water and mineral rights having potentially high riparian and wildlife values and manage for those values [4.00].*

Pursuit of private land for acquisition would occur only when there is a willing seller. The probability of acquiring private land is very low. Table 4.12 shows the increase in wildlife habitat, and visual and recreation classes that would occur if the land identified for acquisition is transferred from private to public ownership.

**TABLE 4.12**  
**Increases in Resource Values Resulting from**  
**Land Tenure Adjustments of Alternative B**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Kind of Resource Value Affected	Increase from Acquisition	
	acres	%
<b>Wildlife Habitat</b>		
Crucial Deer	563	<1
Yearlong Deer	2,077	<1
Winter Elk	184	<1
Yearlong Elk	2,456	<1
Crucial Antelope	0	<1
Winter Antelope	610	<1
Yearlong Antelope	2,109	<1
Crucial Sage grouse	563	<1
Yearlong Sage grouse	2,077	<1
<b>Visual Resource Management</b>		
Class		
Class II	2,024	1
Class III	876	<1
Class IV	84	<1
<b>Recreation Opportunity</b>		
Spectrum Class		
Rural	0	
Roaded Natural	458	<1
Semi-primitive Motorized	2,313	<1
Semi-primitive Non-motorized	243	<1

Acquisition of the private land would increase the government's Payment In Lieu of Taxes by \$300 per year. This increase in tax payments by the Federal Government would be offset by the decrease in private property taxes paid. The amount of the

decrease in property tax payments is dependent on the value and current use of the land. Because of the variability of values and uses, no estimate of the change in taxes is made.

*All acquired land may be authorized for livestock grazing only on a temporary, non-renewable basis if the livestock grazing would be compatible with wildlife, riparian or Special Recreation Management objectives [4.02 and 17.07].*

Of the 3,014 acres proposed for acquisition (map symbol J on Map 2.3), 2,244 acres lie within BLM grazing allotments, 220 acres lie outside BLM grazing allotments, and approximately 50 acres are tilled. The remaining acres are not accessible to livestock. Eighteen miles of fence, at a cost of \$63,000, would be required to segregate the acquired land from grazing allotments.

Grazing use within BLM grazing allotments would decrease by 321 animal unit months. Of this decrease, 64 animal unit months would come from riparian areas and 257 would come from uplands. No decrease in grazing preference would result from the acquisition, but the percent federal range may change for the operators within the affected allotments. Actual use in riparian areas would decrease by 36 animal unit months and 144 animal unit months on the uplands. Grazing use on acquired land outside BLM allotments would decrease by 28 animal unit months. Annual livestock industry operating costs would increase by \$1,350 for the 180 animal unit months of grazing use within a BLM allotment.

Vegetation production and cover on 2,514 of riparian and upland areas would improve without grazing or farming disturbance. Tilled acres would be seeded to adapted perennial plant cover. The increased vegetation production and cover would reduce off-site sedimentation by 25 tons per year. The economic benefit of keeping soil in place would be up to \$137 per year depending on the site specific situation (Feichtinger, SCS, personal communication, 1993). The improved vegetation would also improve fish habitat along seven stream miles with the potential for fisheries.

*Close all land acquired for riparian, wildlife and water quality values to material sales and free use permits. Stipulate no surface occupancy for leasable mineral (oil and gas) exploration and development*

*[4.03], and withdraw from mineral entry under the 1872 mining law [4.05].*

Impacts to saleable and leasable minerals would be neutral since the acquired land is not currently available for mineral activity. The withdrawal from activity under the 1872 mining law would decrease mineral opportunity on 2,749 acres. Of the area withdrawn from mineral entry, 14 acres are considered to have a moderate potential for the occurrence of gold and 853 acres are considered to have a high potential for the occurrence of diatomite.

- **Issue 3: How will public resources along the north rim of the Snake River Canyon be managed and for what uses?**

During the scoping process, much public attention was focused on the area bounded by the Snake River rim on the south, Interstate 84 on the north, and US Highway 93 on the west. Due to its proximity to the city of Twin Falls, increased recreation use, and the public's increased environmental awareness of the Snake River, this area contains many important public resource values. Besides the high recreation use, the area contains significant historical value (remnants of the Oregon Trail), wildlife habitat, livestock forage, saleable mineral materials, an Area of Critical Environmental Concern (Vineyard Lake), and portions are proposed for exchange into state ownership. Coordinated and focused management is needed to avoid conflict between the public users and degradation of the resources.

The following management actions are made in this alternative to address Issue 3. The impacts of each decision immediately follow the management action.

*Establish 5,236 acres as the Snake River Rim Special Recreation Management Area (map symbol R on Map 2.3) to be managed with emphasis on developed recreational opportunities [5.00].*

The analysis of this management action was based on the Snake River Rim Special Recreation Management Area scenario in Appendix B (page 296). Construction of a shooting range, chariot racing facility, and motocross tract north and east of the

Perrine Bridge would convert 240 acres from a Roaded Natural to a Rural recreation opportunity classification. These actions would be authorized as *Recreation and Public Purposes Act* leases. Development of facilities by the BLM to help manage recreation use in the area would convert 35 acres from a Roaded Natural to a Rural recreation opportunity classification.

Construction of facilities under *Recreation and Public Purposes Act* leases would increase soil compaction on 240 acres. BLM construction would increase soil compaction on an additional 35 acres. The effects would be localized and confined to the actual construction site during the short-term. The sandy and sandy-loam soils would not show long-term affects on the rate of moisture infiltration.

Two hundred seventy five acres of vegetation and wildlife habitat would be lost. Loss of vegetation would decrease livestock grazing preference by 32 animal unit months and actual use by 22 animal unit months. The reduction in preference is 1 percent of the affected allotments. Annual livestock industry operating costs would increase by \$200. The increase is the difference between the cost of grazing on public land and the cost of replacing the lost forage with private pasture land.

The anticipated visitor use increases with development of recreation facilities is shown in Appendix B, Table B-2. Use would increase by over 7,100 visitor hours each year through the fifth year of the plan, and would then increase approximately two percent per year from years 5 through 20. In years 5 through 20, visitor use would be 45 percent higher than without the facilities. At the end of the planning horizon, use in the rim area is projected to be 161,100 visitor hours per year. This is a 111 percent increase in the visitor use from the current levels.

Increased visitor use would increase soil erosion by wind an estimated 49 tons per year. Based on current visitor use correlations, reports of human-caused fires would increase by 10 percent (four reports) per year, and criminal incidents would increase by 46 percent (36 reports) per year. Littering is expected to rise proportionally with the increase in visitor use.

Increased visitor use would contribute an additional \$31,900 per year to the local economy.

*Withdraw Vineyard Lake and Creek, Devils Corral, Dry Cataracts and Cauldron Linn (map symbol S on Map 2.3) from locatable mineral exploration and entry [5.02].*

Withdrawal from mineral activity under the 1872 mining law would decrease mineral exploration opportunity on 1,029 acres. The withdrawal area contains 407 acres considered to have a moderate potential for the occurrence of gold. There are currently no claims of record within the withdrawn area.

*Close Dry Cataracts, Cauldron Linn and Devils Corral (map symbol E) to material sales and free use permits [5.03].*

The closure would decrease the saleable mineral area by 1,436 acres. However, this area has been heavily mined for materials in the past and no known mineral reserves remain. There are currently no active pits or permits for the removal of mineral material, so the effect of closure is negligible.

*Stipulate no surface occupancy for leasable mineral (oil and gas) exploration and development in the Devils Corral and Cauldron Linn areas (map symbol K) [5.04].*

The stipulation of no surface occupancy for leasable mineral exploration and development applies to 510 acres. Of that total, 109 acres are currently so stipulated. The entire stipulation area is considered to have a low potential for the occurrence of oil or gas resources, but is considered prospectively valuable for geothermal resources. There are currently no leases in the stipulation area.

*Preserve the existing archeological values in the portion of Cauldron Linn below the canyon rim by prohibiting any surface disturbing activities, except for approved research, and opposing any development of the area that would directly or indirectly alter or visually impact the cultural or historic values [5.07].*

Preservation of the visual quality of the Cauldron Linn National Historical Register site, could potentially influence development projects along one mile of the Snake River. Presently, there is one application filed with the Federal Energy Regulatory Commission for the development of a 25-megawatt hydroelectric generating facility. Visual and other impacts to the site will be addressed in the environmental analysis conducted by the Federal Energy Regulatory Commission. Conclusions of the analysis may result in the modification or rejection of BLM authorizations ancillary to the proposal.

*Close 345 acres in the Devils Corral (map symbol F) to vehicle use. Close 117 acres below the Snake River Canyon rim, known as the Jerome Golf Course tract (Township 9 South, Range 17 East, Section 19), to all vehicles until or unless an individual or local government acquires a right-of-way. Limit motorized vehicle use in the Snake River Rim Special Recreation Management Area to signed roads and trails in specific areas identified in the management plan [5.08].*

Closure of 462 acres to motorized vehicle use would not change the current Roaded Natural and Semi-primitive Motorized Recreation Opportunity Classifications. The existing closure in the Devils Corral area has not been effective. Additional use supervision is needed to effectively close Devils Corral.

Closure of the Snake River Canyon access road south of the Jerome Golf Course could require local government and/or private investors to improve the Blue Lakes grade access route. Improvements would be necessary to provide emergency vehicle access to the businesses and homes in the canyon bottom. The cost of these improvements would be \$210,000 to bring the Blue Lakes Grade up to county highway standards, compared to upgrading the road at the Jerome Golf Course to BLM standards at \$55,000. Twin Falls county is currently in the process of upgrading the Blue Lakes Grade.

The closure would represent the loss of one of seven motorized public access points to the Snake River currently existing on public land in the planning area. Closing the road would not limit the tract to

pedestrian, bicycle or equine recreational use. The road closure would also improve wildlife habitat values by eliminating vehicle disturbance and avoidance reactions by wildlife.

*Identify 5,215 acres (map symbol P) as an avoidance area to new right-of-way requests and utilities. Existing right-of-way holders may upgrade their facilities within their current authorized right-of-way [5.09].*

The limitation on right-of-way grants would preserve the remaining visual quality and other resources for the designated recreation uses. To avoid the area, a possible four-mile diversion may be necessary for projects requiring a north/south right-of-way grant.

Right-of-way grants could be permitted in the avoidance area. A grant may be issued if the only possible route is through the area and no alternative route exists.

*Close the main portion of the Snake River Rim Special Recreation Management Area to visitor use between sunset and sunrise. Close the Bliss Tract/Hagerman Take-out to overnight camping and campfires [5.13].*

Currently, most illegal activities occur during the period of the proposed closure. These activities would be curtailed and more easily detected by law enforcement authorities with a dusk to dawn closure. Legitimate recreation use of the area during the day would not be affected.

Closure of the Bliss Tract/Hagerman Take-out to camping would prevent impacts to the wildlife habitat not present with day use. Camping would degrade wildlife habitat and would displace wildlife use of the tract.

*Close the Snake River Rim Special Recreation Management Area to firearm use except in designated and posted shooting areas [5.14].*

Reduced public risk from firearm related accidents.

● Issue 4: Is there a need to protect the Resource Area's critical resource values through special management designation?

During the scoping process, the BLM received formal nominations for Areas of Critical Environmental Concern. Additionally, there are other special designations that can be made to focus management attention. These designations include, but are not limited to, Special Recreation Management Areas for providing specific recreation opportunities, Significant Caves to focus management attention on important cave resources, Conservation Areas or Research Natural Areas for the protection or enhancement of research opportunities, etc. Selection and use of the appropriate designation, if any, is based on evaluation of the critical resource values. *The Wild and Scenic Rivers Act* (1968) requires the BLM to study and make recommendations on waterways for inclusion in the National Wild and Scenic Rivers System. This planning effort will determine eligibility, tentative classification and interim management of wild and scenic rivers as part of this issue.

The following management actions are made in this alternative to address Issue 4. The impacts of each decision immediately follow the management action.

*The Big Wood, Dry Creek, and King Hill river segments are determined to be not suitable for consideration by Congress for inclusion in the National Wild and Scenic Rivers System. Initiate the wild and scenic river study process on eligible segments of the Snake River within two years of the Record of Decision. The study will be conducted in accordance with the Memorandum of Understanding with the State of Idaho [6.00].*

See Appendix D for a discussion of the recommendation for non-suitability.

*Withdraw the segment of the Big Wood River designated as eligible for wild and scenic river consideration from mineral entry (map symbol S). Temporarily withdraw 2,202 acres (map symbol T), eligible for wild and scenic river designation on the Hagerman, King Hill, Milner, and Murtaugh*

*segments of the Snake River, and on Box Canyon Creek and Vineyard Lake, from mineral entry [6.02].*

Four claims totaling 80 acres are within the 2,202 acres withdrawn from mineral entry along the Snake River. The withdrawal area includes 1,918 acres considered having a moderate potential for the occurrence of gold. The eligible river segments would receive interim protection until the suitability study is conducted and the segments are found either suitable or not suitable. If found suitable, only Congress can release the segments from further consideration.

Withdrawal from mineral entry of 55 acres of the Big Wood River is not within any known potential traditional mineral area. There are claims, located under the 1872 mining law, for water-sculpted decorative rock in other segments of the river channel. The withdrawal area contains the best examples of water-sculpted rock found within the Big Wood River. There are no claims in the withdrawal area. This area is currently under a mineral segregation until July 7, 1994 (*Federal Register* Notice of July 8, 1992, page 30228).

*Designate the Hagerman, King Hill, Milner, and Murtaugh segments of the Snake River (map symbol P) under consideration for wild and scenic river designation, as avoidance areas to new rights-of-way [6.03].*

The limitation on grants for rights-of-way on 2,202 acres would preserve any outstandingly remarkable qualities pending recommendation as either suitable or not suitable for inclusion in the National Wild and Scenic Rivers system. Further, the avoidance areas would maintain the existing visual and scenic quality of the last free-flowing segments of the Snake River.

Avoidance of the areas would mean a possible diversion of 2.5 miles for projects requiring a north/south right-of-way grant. Right-of-way grants could be permitted in the avoidance areas. A grant may be issued if the only possible route is through the areas and no alternative route exists.

A total of 41.5 miles of the Snake River would be included in the avoidance areas. These areas include

the proposed Dike and A.J. Wiley hydroelectric dam projects. These projects have permit applications filed with the Federal Energy Regulatory Commission.

*Close the segment of the Big Wood River designated as eligible for wild and scenic river (map symbol E) consideration to material sales and free use [6.06].*

The closed area includes the Big Wood River Community Pit. The pit was established in 1983 for the removal of sand and gravel. No permits for material removal from the pit have been issued since October of 1989.

*Stipulate no surface occupancy for leasable mineral (oil & gas) exploration and development on 2,202 acres (map symbol K of Map 2.3) along the Snake River, and on 55 acres of the Big Wood River segment eligible for wild and scenic river designation [6.07].*

The no surface occupancy stipulation for segments of the Snake River includes 1,407 acres considered having a low potential for the occurrence of oil or gas resources. The area also includes 1,693 acres considered prospectively valuable for geothermal resources. This is two percent of the area considered to have any oil or gas potential, and one percent of the area considered prospectively valuable for geothermal resources. The 55 acres of the Big Wood River, stipulated for no surface occupancy, are not within any known oil, gas or geothermal areas. There are currently no leases within any of the stipulated areas.

*Continue to manage 142 acres in Box Canyon and 178 acres in Vineyard Lake as Areas of Critical Environmental Concern (map symbol A on Map 2.3). Designate 10,043 acres of the T-Maze Cave system, 12 acres of Kings Crown, 1,399 acres in Dry Creek, 101 acres around Fir Grove, 361 acres of Camas Creek, and 2,642 acres of King Hill Creek as Research Natural Areas/Areas of Critical Environmental Concern (map symbol A on Map 2.3) [7.00].*

Six new Areas of Critical Environmental Concern totaling 14,557 acres would be designated. Sixty-

eight acres would be added to the existing Vineyard Lake Area of Critical Environmental Concern.

The continuation of the Box Canyon Area of Critical Environmental Concern, and the management actions supporting this designation, would help preserve habitat for federally listed and candidate snails and fishes. Preservation of this habitat would improve the survival of the snails found to exist in the canyon. Box Canyon is known habitat for two endangered species (Banbury Springs limpet and Utah valvata snail), one threatened species (Bliss Rapids snail) and two federal candidate species (Giant Columbia River limpet and Shoshone sculpin).

Designation and management of the Kings Crown, Camas Creek, and Dry Creek Areas of Critical Environmental Concern would protect habitat for threatened or endangered plants. Morning milkvetch (*Astragalus astratus ver. inseptus*) is the principle benefiting species. Species survivability would improve from gains in management knowledge and protection of habitat, reducing the need for listing the species as threatened or endangered.

The designation of the King Hill Creek Area of Critical Environmental Concern, and the management actions supporting this designation, would preserve redband trout habitat. Redband trout is a federal candidate species. Preservation and enhancement of this habitat by application of livestock best management practices (see analysis for management of riparian areas and wetlands beginning on page 184), and other management actions, would improve the survivability of this species.

*Stipulate no surface occupancy for leasable mineral (oil and gas) exploration and development in the Box Canyon, Vineyard Lake, Dry Creek, Fir Grove, Camas Creek, King Hill Creek (amends the Jarbidge RMP) and Kings Crown Areas of Critical Environmental Concern. Stipulate no surface occupancy for leasable mineral (oil and gas) exploration and development including seismic exploration on 1,314 acres of the T-Maze Area of Critical Environmental Concern (map symbol K) [7.02].*

This stipulation already exists on 252 acres of the Vineyard Lake and Box Canyon areas. Within the

Box Canyon, Vineyard Lake, Kings Crown, and Camas Creek areas, 687 acres of public land is considered prospectively valuable for geothermal resources. Twelve acres of the Kings Crown area and 252 acres of the Box Canyon and Vineyard Lake areas are considered to have a low potential for the occurrence of oil or gas resources. There are currently no leases in these areas.

*Limit vehicle use to designated and signed roads and trails identified in the Box Canyon, Vineyard Lake and Dry Creek Areas of Critical Environmental Concern activity plans, and on 1,314 acres in the T-Maze Area of Critical Environmental Concern. Close the Kings Crown, Camas Creek, King Hill Creek (amends Jarbidge RMP) and Fir Grove Areas of Critical Environmental Concern (map symbol F) to vehicle use [7.-03].*

Vehicle limitations within areas of critical environmental concern would not be significant. Only small portions of the areas are accessible to vehicle use. Vehicle limitations would shift 500 visitor hours from the T-Maze limitation area to adjacent open areas.

*Seek to acquire for inclusion in the Box Canyon Area of Critical Environmental Concern, the upper portion of Box Canyon (subject to existing easements) plus 250 ft. back from the canyon rim (map symbol J). Seek to acquire 160 acres known as the Ehlers property (map symbol J) for inclusion in the Vineyard Lake Area of Critical Environmental Concern [7.05].*

Changes to visual and recreation opportunity spectrum classes, with the acquisition of land next to the two Areas of Critical Environmental Concern, were discussed under the analysis for land acquisition (page 195). The acquisition of the upper portion of Box Canyon and the land above the canyon rim would bring the entire alcove under public control. Public ownership of the entire canyon would improve recreational opportunities, increasing visitor use by 1,000 visitor hours per year. Increased recreation would contribute an additional \$500 annually to the local economy.

Land acquisition would not affect agricultural return flow through the canyon. Installation of a bio-

filtering system, on the acquired land, would trap suspended solids before they reached the stream (see analysis for biological filtering systems on page 193). The increased visitor use is not expected to have any impact, positive or negative, on threatened or endangered species in the area.

The analysis of acquisition of private land around the Vineyard Lake area was based on the Vineyard Lake Recreation Development scenario in Appendix B (page 301). This acquisition has a low probability of occurring.

Approximately 60 acres would be taken out of tillage. Some open soil areas now farmed would be converted to roads, trails, camping facilities, etc. This would lead to limited water infiltration problems during construction. There would be no moisture infiltration problems in the long-term because the disturbed land would be planted to perennial vegetation. The year-around vegetation cover would reduce soil erosion by three tons per year.

Improved access to the Vineyard Lake area, wildlife habitat, and development of a recreation area would increase visitor use by 16,600 visitor hours per year. Use would increase 26 times above the current levels. Visitor use would grow at an annual rate of 2 percent from this higher level. Increased visitor use would contribute an additional \$13,700 to the local economy.

Water consumption for domestic use and grounds maintenance for the Vineyard Lake recreation sites would be 63,000 gallons per year or 173 gallons per day. Under existing state law, a permit is not required for a well pumping under 13,000 gallons per day. Water and irrigation rights would be purchased as part of the land acquisition.

Estimated cost for facility development would be \$175,000. Acquisition of the private land would increase the Federal Government's Payment In Lieu of Taxes by \$20 per year. Payments to the county would be reduced. The amount of the decrease in tax payments is dependent on the value of the land and the current use of the land. Because of the variability of values and uses, no estimate of the change in taxes is made.

*Close the Box Canyon, Vineyard Lake, Dry Creek, Fir Grove, Camas Creek, King Hill Creek (amends the Jarbidge RMP) and Kings Crown Areas of Critical Environmental Concern to material sales and free use permits (ap symbol E). Authorize no material sales or free use permits inside the cave(s) in the T-Maze Area of Critical Environmental Concern [7.06].*

The Vineyard Lake area is currently closed to material sales. Closure of the other areas would have limited impact. Since 1989, no permits for material sales have been issued in any of these areas.

*Motorized water craft must have their motors shut off and outboard motors removed from the water within the Box Canyon and Vineyard Lake Areas of Critical Environmental Concern [7.08].*

Five acres in the Box Canyon Creek and Vineyard Lake would be closed to outboard motor use. Small amounts of spent petroleum products (from motor boat fuel) from present use would be reduced to trace amounts transported from power boat use upstream.

*Withdraw (map symbol S) the Box Canyon, Vineyard Lake, Kings Crown, Dry Creek, Fir Grove, Camas Creek, King Hill Creek (amends the Jarbidge RMP) and 1,314 acres of the T-Maze Areas of Critical Environmental Concern from mineral entry [7.09].*

There are 14 claims totaling 286 acres in the T-Maze Area of Critical Environmental Concern withdrawal area. This is 8 percent of the total number of claims in the Bennett Hills, and 3 percent of the total claim acreage. These existing claims would not be affected by the withdrawal, however, no future claims may be staked. A total of 763 acres in the Box Canyon (51 acres), King Hill Creek (653 acres) and Vineyard Lake (59 acres) is considered having a moderate potential for the occurrence of gold.

*Restrict access to caves containing bats in the T-Maze Area of Critical Environmental Concern during winter hibernation periods (November through April) except for approved research or BLM management actions [7.12].*

Restricted access to caves in the T-Maze Area of Critical Environmental Concern would decrease human visitation by 240 visitor hours per year. Decreased visitor use of the T-Maze cave system would improve conditions for bat survival by reducing mortality. Mortality may be caused by displacement of bats (primarily juveniles) to marginal sites and arousal of bats from hibernation causing consumption of stored fat reserves. Consumption of stored fat reserves may result in unsuccessful breeding via abortion, reabsorption, or loss of nursing young.

*Identify the Kings Crown, Dry Creek, Fir Grove, Camas Creek, King Hill Creek (amends the Jarbidge RMP) and 1,314 acres of the T-Maze Area of Critical Environmental Concern as an exclusion area (map symbol O) for land use authorizations; and 8,717 acres of the T-Maze Area of Critical Environmental Concern as an avoidance area for land use authorizations [7.14].*

The Areas of Critical Environmental Concern include 6,125 acres as exclusion areas for right-of-way grants. Right-of-way grants could not be permitted in the exclusion areas under any circumstances. Exclusion of the areas would mean a possible diversion of one mile for projects requiring an east/west right-of-way grant. The diversion would be two miles in the Dry Creek area and four miles for the King Hill Creek area. The possibility of receiving applications for rights-of-way through the Dry Creek, King Hill Creek, Fir Grove, and Kings Crown areas is considered very low because of steep and rocky terrain making construction and maintenance very costly.

In the T-Maze avoidance area there is an existing right-of-way grant (I-27172) for a county road. In the Camas Creek area there is an existing right-of-way grant (I-017015) for a US Geological Survey gauging station. There will be no impact to these grants.

*Close the Kings Crown Area of Critical Environmental Concern to livestock grazing. Close the Dry Creek Research Natural Area/Area of Critical Environmental Concern to livestock grazing below the canyon rim except for designated spring trailing use*

*with no overnight stays. Close the Camas Creek Area of Critical Environmental Concern to livestock grazing except for sheep trailing within the wing fences at Macon Sheep Bridge and with no overnight stays [7.15].*

Livestock trailing restrictions would decrease livestock use by 110 animal unit months within the Dry Creek Area of Critical Environmental Concern. This trailing use would shift to other routes. No reduction in grazing preference would occur. Changes in trailing practices would increase annual livestock industry operating costs by \$500 per year.

Fencing the Camas Creek Area of Critical Environmental Concern would move 37 animal unit months of livestock use outside the area. Stream bank stability would increase on 1.5 stream miles by elimination of mechanical dislodging of soil by livestock trampling. The increased bank stability, and improved vegetation production and cover would decrease stream bank erosion by three tons per year. Most sediment deposition in the area occurs from soil erosion on private land upstream.

*Close the Fir Grove Area of Critical Environmental Concern to wood products harvesting or collecting [7.17].*

Impacts of this action are negligible. The area is not classified for commercial timber production. There have been no material sale permits issued for wood products at this site within the last three years.

*Close all aquatic habitat in the King Hill Creek Area of Critical Environmental Concern (amends the Jarbidge RMP) to introduction of genetic strains of trout which are not native to the King Hill Creek watershed [7.22].*

The restriction to introduction of new trout genetic material into the King Hill Creek would help insure the genetic purity of the existing strain of redband trout. Protection of the genetic strain would help reduce the chance of listing the species as threatened or endangered.

*Stipulate no surface occupancy or seismic exploration (map symbol K) for leasable minerals [8.04] and*

*withdraw from mineral entry [8.05] on 1,913 acres over caves designated as significant.*

The "no surface occupancy" stipulation on 1,913 acres of significant caves includes 511 acres considered prospectively valuable for geothermal resources, and 728 acres considered having a low potential for the occurrence of oil or gas resources. This is less than 1 percent of the total potential area for either resource in the planning area. There are no leases in any of the stipulated areas.

At this time, there are six claims totaling 480 acres within the withdrawal for significant caves. This is three percent of the total number of claims, and five percent of the total claim acreage in the planning area. These existing claims would not be affected by the withdrawal, however, no future claims may be staked.

### ● Management Concerns

Management concerns focus on use conflicts, law or policy, or resource conditions that have not been identified during the scoping process as issues. Nevertheless, these concerns require management attention to anticipate future needs and avoid developing into issues in future years. In most cases, these topics are neither highly controversial (based on public scoping) nor different between alternatives, but need to be fully considered in the planning process.

The following management actions are made in this alternative to address management concerns. The impacts of each decision immediately follow the management action.

*Include 6,765 acres in the Wildlife Isolated Tracts Program (map symbol D) to maintain or improve the quality and integrity of wildlife habitat. The primary objective is to maintain or improve the integrity of existing winter, escape and nesting cover for upland game birds [9.00].*

The analysis of this action was based on the Wildlife Isolated Tracts scenario in Appendix B (page 288). Vegetation manipulation treatments would occur on 1,027 acres. Treatment costs would be \$24,800 over the life of the plan. Treatments would improve

nesting, escape and thermal cover for pheasants. Pheasant populations would increase.

*Limit vehicle use (map symbol L) within wildlife isolated tracts to designated roads and trails [9.04]. Pursue legal public access to wildlife isolated tracts on a priority basis as identified by the Habitat Management Plan [9.06].*

Vehicle limitations of the tracts would decrease motorized visitor use by 350 visitor hours per year. Another 350 visitors hours of use would shift to open areas of public land. Improved access to wildlife isolated tracts would provide the public a greater opportunity to view and hunt wildlife. Hunters and people engaged in watchable wildlife activities would contribute an additional 250 visitor hours per year.

The net visitors use of wildlife isolated tracts would decrease by 100 visitor hours per year. Recreation contributions to the local economy would decrease by \$340 annually.

*Close all wildlife isolated tracts to livestock grazing, unless authorized under a cooperative agreement compatible with the management objectives for the tracts [9.09].*

Of the area closed to livestock grazing, 2,637 acres are not currently allotted for livestock grazing. An additional 2,620 acres currently used by livestock would have livestock preference reduced by actions [12.09] and [12.10]. The impacts of this preference reduction are analyzed on page 209. The remaining 1,508 acres within wildlife isolated tracts would be segregated from grazing allotments without reducing livestock preference.

Removal of livestock would increase the volume of vegetation remaining on the tracts going into the winter. The increased vegetation would improve nesting, escape and thermal cover for pheasants. Pheasant populations would increase.

*Acquire legal public access to public land on 68 miles of road as identified on Map 3.13 [10.00].*

Improved access to public land would make 21,377 acres more accessible. Better access would increase

visitor use by 500 visitor hours per year. Of the 21,377 acres, 4,398 acres are in recreation opportunity class Roaded Natural, 15,849 acres are in Semi-primitive Motorized, and 1,130 acres are in Semi-primitive Non-motorized. These Recreation Opportunity Classes are within  $\frac{1}{2}$ -mile of the new access. There is no actual change in the number of acres in a class, just an increase in the access convenience.

The increased visitor use would add \$1,700 annually to the local economy. Human-caused fires would increase by one fire per year. Littering is expected to rise proportionally with the increase in visitor use.

The acquisition of all access needs identified on Map 3.13 would increase the BLM's road system by 22 percent. Maintenance costs on the new access would be \$10,200 every five years, because maintenance would occur every five years.

*Provide 79,777 Animal Unit Months of active grazing preference (see Table A-1 in Appendix A for allotment-specific detail) [12.00].*

The reader is referred to page 168 for a description of the general effects of livestock grazing, season of use and grazing systems on upland vegetation. Rather than repeat that information here, the reader is referred to the discussion under Alternative A. The ecological impacts of providing 79,777 animal units months of livestock preference and management of livestock use have been analyzed under actions 1.00 and 2.00 beginning on page 183. The analysis presented here will focus more on the economic impacts of changes to livestock grazing.

Table 4.13 shows the general area, the allotments within that area, and the general considerations and recommendations. Specific grazing activity plans, which incorporate riparian area best management practices, would be developed in the future incorporating these general area recommendations.

The proposed changes in grazing periods of use would increase annual livestock industry operating costs by \$55,700 compared to the present grazing periods. This increase is based on the need to find private pasture to replace the lost periods on public

TABLE 4.13  
 General Considerations and Livestock Grazing  
 Recommendations by Geographic Reference Area  
 Bureau of Land Management  
 Shoshone District, Idaho

General Area Description	Allotments Included	General Considerations and Livestock Grazing Recommendations
Camas Prairie GRA	Base Line, Cow Creek, Deer Creek, Ear Creek, Elk Creek, Fairfield, Hot Springs, McHan Creek, Mill Canyon, Phillips Creek, Piney, Powell Creek, Roanhise, Rough Creek, Sheep Point, Soldier, Three Mile, and Willow Creek.	Riparian/water quality values; late spring use for short period by cattle; any seeding should comprise native species; daily riding recommended; small % public land not considered in overall recommendation for area.
Bliss\King Hill Lower Area: (Crucial Deer Winter Range)	Hog Creek, Pioneer, 101, The Pasture, Ticeska, West Bliss, West Pioneer.	Crucial deer winter range; early and\or late spring use recommended; no shrub removal treatments would be considered until specific Desired future vegetation condition objectives have been determined and met.
Upper & Lower Bennett Hills GRA: (West of Hwy 46)	Black Canyon, Clover Creek, Davis Mountain, Dempsey, Hash Springs, King Hill, Indian, Long Gulch, Mink, North Slope, Pothole.	Spring\fall use; all use in upper Bennett Hills area recommended for spring use only; any seeding keyed to native species; daily riding required; lower Bennett Hills area recommended for early spring and fall; any seeding keyed to native or introduced species; riding every third day required; daily herding of cattle required on riparian pastures; management of riparian pastures keyed to riparian zones; some livestock reduction may need to occur; 4-6 inch stubble height required, on uplands, for fall use pastures following grazing.
Upper & Lower Bennett Hills GRA: (East of Hwy 46 & North of Wood River)	Compound, Curtis Lake, Gwin ranch, Kinzie Butte, Macon Flat, North Shoshone, Rattlesnake, and Spillway.	Rest rotation spring through fall, spring only or spring and fall; management keyed to riparian pastures; upper Bennett Hills seeded to native species; daily riding required; lower Bennett Hills seeded to native or introduced species; riding every third day required; 4-6 inch stubble height required, on uplands, for summer or fall use pastures following grazing.

General Area Description	Allotments Included	General Considerations and Livestock Grazing Recommendations
Snake River Plain\Rim GRA: (South of Wood River & Hwy 26)	Antelope, Barren, Camp I, Camp II, Camp III, Canyon, Common, Goodtime, Gunnery, Hazleton, Hunt, Interstate, Jerome, Milner Plot, Nasura, North Milner, Northside, Notch Butte, Pocket, Pole Line, Quail, River, Sand Butte, Seven Mile, Short Line, South Gooding, South Milner, Tunupa, Wendell Cattle.	Spring, spring\fall, or spring through fall use; no winter grazing; rest rotation grazing; seeded to native or introduced species; interseeding for shrubs required; 4-6 inch stubble height required, on uplands, for summer or fall use pastures following grazing.

land or, in some cases, a reduction in annual livestock industry operating costs as public grazing periods replace private pasture.

The need to achieve the desired plant communities will increase livestock management intensity on 610,900 acres. Improved livestock grazing practices are essential to help reach and maintain desired plant communities. Achieving the objectives requires combining riparian best management practices with vegetation manipulation and increased livestock management intensity on the uplands. No grazing pasture rotation system or method including, but not limited to, rest-rotation, deferred-rotation, deferment of use, the Savory grazing method, or other accepted grazing management system alone, without other complementary actions, would achieve desired future vegetation condition and/or riparian/water quality goals.

Grazing permittees would need a major commitment to herding livestock in allotments with and without riparian areas. Application of more intense livestock management on uplands would increase annual livestock industry operating costs by \$27,200 per year in the Lower Bennett Hills, Snake River Plain and Snake River Rim Geographic Reference Areas. In the rest of the planning area, annual livestock industry operating costs would increase by \$4,400 per year.

Operating cost increases in the Camas and Upper Bennett Hills Geographic Reference Areas would be for distributing livestock on the uplands in six allotments without riparian areas. Permittees would need 73 riding days at \$60 per rider and horse day. That would average \$700 per year per allotment. Small allotments would require much less, large allotments would require much more.

In the rest of the planning area, 33 allotments without riparian zones would require 453 riding days at \$60 per rider and horse day. That would average \$800 per year per allotment. See analysis for Functioning Riparian Areas (action 2.00) for herding costs on allotments with riparian areas.

Using livestock best management practices would increase livestock use on 270,700 acres of upland range in the Camas and Upper Bennett Hills Geographic Reference Areas. In the rest of the planning area, upland grazing use would increase on 340,200 acres. Evenly distributing livestock over the uplands, while reducing their concentration in riparian areas, would represent a slight increase in use of uplands. This would be less use on easily accessible areas and more use on lightly grazed areas. Taken as a whole, this would result in a net decrease in grazing pressure on areas requiring the greatest rest from grazing, with acceptable grazing pressure on areas requiring the least rest from grazing.

## Management Concerns

Impacts to vegetation from livestock grazing are difficult to evaluate. Because of the interrelationship between season, kind and numbers, the positive effect of a season change may be neutralized by the negative impact from a change in kind or numbers. Because of this interconnection, the impacts of these three livestock factors must be considered together. Considering the combined effects of livestock kind, season of use, and stocking numbers, this alternative would result in a negative impact to vegetation on 565,100 acres, a positive effect on 11,300 acres, while the rest of the planning area would show no change from the current situation. Negative impacts would be reflected in decreased vegetation vigor, seed production, productivity, and diversity.

The increase in stocking rate from the 1984-1992 nine-year average actual use to the full preference level would reduce annual livestock industry operating costs by \$180,400 per year. This assumes that the industry has been pasturing on private land the difference between the average actual use and the full preference level. Under this assumption, the net affect of this action only would be to decrease the annual livestock industry operating costs by \$109,400 per year.

*Temporary non-renewable grazing use above active preference may be authorized for up to 10 percent and 14 days above active preference and in conformance with action 12.00 [12.01].*

Analysis of this action was based on the temporary non-renewable grazing use scenario in Appendix B (page 298). Based on that scenario and past historical use, 1,582 animal unit months of temporary non-renewable grazing use would be authorized each year. This use is three percent of the average actual use over the last three years.

Temporary non-renewable use would occur on 24,000 acres of public land each year. This use would be compatible with desired future vegetation condition composition and diversity objectives. Over the long-term, the structural diversity of the vegetation would be maintained.

Livestock would use 468 animal unit months on 5,900 acres of crucial deer habitat. On the areas where the

use occurs, structural diversity of the vegetation would temporarily decline. Because the use occurs in the fall, the loss of structural diversity going into a hard winter may increase wildlife loss through exposure and starvation.

Authorization of temporary non-renewable grazing use would increase federal grazing receipts by \$3,037 per year and reduce annual livestock industry operating costs by \$11,850.

*Livestock grazing authorization to enter and use the public land shall be based on range readiness [12.03].*

Livestock grazing preference on public land would not be changed by the application of range readiness criteria for livestock spring turnout dates. However, some range areas would not be available for use as early as in the past. The inability of some permittees to move their use to later in the spring, or increase herd or flock numbers to use the available forage, could result in 1,100 animal unit months of grazing preference going unused or a decrease in average actual use of 739 animal unit months. Vegetation vigor and root reserves would improve on 34,300 acres where early spring use traditionally occurs.

The reduction in livestock use would decrease federal grazing receipts by \$1,400 per year. Annual livestock industry operating costs would increase by \$23,100 per year. This increase is based on the difference between the cost of forage on public land and the cost of replacing that forage with hay at \$85 per ton.

Compaction of fine-textured soils in the upper 2-3 inches under wet or moist conditions creates a hard surface that limits moisture infiltration. Strong westerly winds in the spring contribute to drying the soil surface. Trampling the soil then loosens soil particles making them susceptible to wind erosion. Range readiness criteria would avoid these conditions, thus reducing wind erosion by 100 tons per year.

*Redefine allotments along the Snake River to exclude livestock grazing below the rim [12.09].*

The elimination of livestock grazing on 1,060 acres in three allotments below the Snake River Canyon rim would decrease livestock preference by 201 animal unit months. Reductions in the three allotments range from 3 percent in the Canyon Allotment to 13 percent in the One-O-One Allotment. Annual livestock industry operating costs would increase \$1,200, while federal grazing receipts would decrease \$300.

Riparian vegetation would improve along 2.6 miles of the Snake River. Stream bank stability would increase and off-site sedimentation would be reduced along this stretch. Improving habitat conditions would enhance conservation efforts for the endangered Snake River Physa snail, the threatened Bliss Rapid Snail, and the federal candidate species Shoshone Sculpin. Recreation opportunities would be enhanced.

*Close 35 allotments and eliminate 1,679 animal unit months of livestock preference (See Table A-1 in Appendix A for details) [12.10].*

The closure of 35 allotments would reduce livestock preference by 1,679 animal unit months. This reduction is less than two percent of the total grazing preference in the planning area. Grazing preference in the affected allotments ranges from 0 to 495 (average 48) animal unit months.

Twenty eight permittees would be affected. Seven permittees have use in other allotments. Twenty one permittees would lose all grazing privileges in the planning area. The average actual use for the past seven years has been 343 animal unit months. Based on average actual use, annual livestock industry operating costs would increase by \$2,600. Federal grazing receipts would decline by \$650.

The decrease in actual livestock use would improve the vegetation production and cover on 2,700 acres. Greater vegetation cover would shield the soil surface from the drying and erosion effect of spring winds and from evaporation by direct sunlight. This increased shading would increase soil moisture about 10 percent and reduce wind soil erosion by 480 tons per year.

*Construct rangeland improvements as determined in activity plans to improve livestock management and achieve vegetation objectives identified in action 1.00 [12.11].*

The analysis of this action was based on the proposed range improvement scenario in Appendix B (page 298). The analysis presented here is for structural improvements only. The analysis for nonstructural vegetation manipulations was presented under the desired future vegetation condition action on page 180. Cost of the improvements based on the scenario would be \$421,700. Structural range improvements will be designed and constructed to compliment desired future vegetation condition objectives in action [1.00].

Construction of structural improvements would disturb 100 acres. This is a short-term impact associated with the actual construction of the improvement. An estimated 150 acres would be disturbed in the long-term because of livestock concentration around the developments.

In the short term, removal of vegetation would increase soil erosion rates about 600 percent. Off-site sedimentation would increase by 26 tons per year until vegetation cover is reestablished in one to three years. In the long term, off-site sedimentation would increase to 38 tons per year. The economic cost of not keeping soil in place would be between \$50 and \$200 per year depending on the site specific situation (Feichtinger, SCS, personal communication, 1993).

More even livestock distribution would be achieved on 64,000 acres. Increased distribution into previously unused areas is not anticipated. The areas have received some light livestock use when conditions allow (e.g., the reservoir has water). The construction of range improvements would provide more consistent use of these areas.

Groundwater consumption would increase by 15,640,000 gallons per year or about 48 acre-feet of water. This is approximately the amount of water needed to produce a crop of sugar beets or potatoes on 30 acres. This increase would be insignificant when compared to the existing unobligated water

## Management Concerns

supply and other uses made of the aquifer that underlay the planning area.

*Do not renew 11 Land Use Permits when they expire [15.01].*

Permit holders would be required to remove improvements and rehabilitate the public land. Surface disturbance would be eliminated on 43 acres. Vegetation production and cover, and wildlife habitat would improve on these areas.

Cost to the permit holder for rehabilitation would be \$2,000. Federal income from the permits would decline by \$1,100.

*Provide for habitat (see actions 1.00 - 1.04) to support viable populations and fulfill life-cycle requirements of wildlife species that exist in the planning area [16.00].*

Aspects of this management action are analyzed under the desired future vegetation condition actions on page 180. Achievement and maintenance of the identified desired plant communities would incorporate requirements to meet this management action.

*Work with the Idaho Fish & Game to reintroduce Mountain quail in the Upper and Lower Bennett Hills Geographic Reference Areas, and sharptail grouse in the Upper and Lower Bennett Hills Geographic Reference Areas [16.02].*

The analysis of this action was based on the Mountain quail reintroduction scenario in Appendix B (page 288). Reintroduction of mountain quail along King Hill Creek would require increased control of livestock use in riparian areas. This control would be achieved through increased supervision, construction of gap fences, or a combination of both. Intensive management of livestock would shift 42 animal unit months of concentrated grazing use in riparian areas to more dispersed grazing on 1,000 acres of uplands.

Shifting livestock use would improve riparian vegetation production and cover on 125 acres. Stream bank stability along five stream miles would improve. Stable banks and riparian zones with

adequate vegetative cover yield little sediment; on the other hand, they trap and hold sediments originating elsewhere. Off-site sedimentation would decrease by 26 tons per year.

Increased livestock use supervision would increase annual livestock industry operating costs by \$4,100. The economic benefit of keeping soil in place would be \$143 (Feichtinger, SCS, personal communication, 1993).

*Comply with the Federal Clean Water Act, and the Governor's Antidegradation Agreement by improving the riparian vegetation. Fish habitat will be provided on streams with fishery potential [16.03].*

Aspects of this management action are analyzed under the wetlands and riparian actions on page 184.

*Identify pronghorn antelope passage areas and take appropriate actions to provide unimpeded movement through fences and across roads [16.07].*

The analysis of this action was based on the pronghorn antelope unimpeded movement scenario in Appendix B (page 289). The operation of drop fences would improve access to crucial and important antelope habitat on 32,600 acres. Free movement of antelope would promote gene mixing and generally improve herd health. Conversion of fences to drop fences would cost \$10,000. Raising and lowering the drop fences would increase the annual livestock industry operating costs by \$650.

*Construct a hiking trail to the top of Black Butte and develop parking adjacent to Highway 75 at the Black Butte trail head [17.01].*

Construction of the parking area and hiking trail, at a cost \$17,500, would increase visitor use by 1,500 visitor hours per year. Vandalism would increase by one incident per year. Littering is expected to rise proportionally with the increase in visitor use. The increased visitor use would contribute \$780 to the local economy.

*Establish 6,608 acres as the Little City of Rocks Special Recreation Management Area (map symbol*

*R), and 2,452 acres as the Magic Reservoir Special Recreation Management Area [17.04].*

The analysis of this action was based on the Little City of Rocks Special Recreation Management Area and the Magic Reservoir recreation scenarios in Appendix B (pages 294 and 294). The parking and trail construction at the Little City of Rocks would cost \$67,000. Construction of the recreation facilities at Magic Reservoir would cost \$200,000.

The recreation sites at Magic Reservoir would disturb 12 acres. Development of potable water at the facility would increase ground water use by 74,000 gallons per year. This is less than one percent of the water that can be pumped from one domestic or stock water well without a state permit.

Visitor use would increase by 1,000 visitor hours per year at the Little City of Rocks, and by 3,000 visitor hours per year (3 percent) at Magic Reservoir. The increased visitor use would contribute a combined \$3,300 annually to the local economy. Human-caused fires and vandalism would increase by one incident each, at each area, as visitor use increases.

*Seek to acquire (map symbol J) 267 acres of private land on the south boundary of the Little City of Rocks for inclusion in the Special Recreation Management Area, and acquire public access to the west side of Magic Reservoir [17.06].*

This action was analyzed under the land acquisition action on page 195.

*Designate 26 miles of the Bliss-Hill City road (map symbol H) as a Back Country Byway [17.10].*

*Identify and develop primitive recreation sites along the Byway [17.11].*

The analysis of this action was based on the Bliss-Hill City Back Country Byway scenario in Appendix B (page 294). Cost of byway signing, promotion, and development of primitive recreation sites would be \$75,000. Visitor use would increase by 600 visitor hours annually. An additional \$2,000 would be contributed annually to the local economy.

Road maintenance costs would increase by \$500 per year along the 26 miles of the byway. This increased maintenance would be the responsibility of Gooding and Camas Counties because the road is part of the county road network.

*Upgrade and actively manage the Little Drops Recreation site [17.12].*

The site is currently semi-developed for recreation use. The cost to upgrade the site to BLM standards would be \$5,000. An additional \$1,600 per year would be needed to patrol the site to prevent vandalism and other illegal activities. No increase in visitor use is anticipated.

*Place the King Hill area under a seasonal (11/15 to 12/31) limitation for vehicle use to designated roads and trails if adverse weather conditions are present that would result in damage to the soils and watershed resource from uncontrolled off-highway vehicle use [18.01].*

The analysis of this action was based on the King Hill Area seasonal closure scenario in Appendix B (page 286). Seasonal closure of the King Hill area during wet weather conditions would occur in four out of ten years. The closure area would include 27,700 acres of recreation opportunity class Semi-primitive Motorized, 10,800 acres of the Roaded Natural class, and 480 acres of the Semi-primitive Non-motorized class. Motorized vehicle recreation use would decrease by 2,000 visitor hours when the closure is in effect.

Seasonal closure of the King Hill area would reduce off-site sedimentation by an average of 96 tons per year. During dry years, nearly no soil loss would occur. During wet years, the rate of erosion could be as high as 240 tons per year. Most of the soil would be displaced a short distance rather than completely lost.

*Close deer, sage grouse and pronghorn antelope winter concentration areas to vehicle and snow machine use during years with severe weather conditions [18.03].*

## Management Concerns

The analysis of this action was based on the winter off-highway vehicle closure scenario in Appendix B (page 286). Closure of portions of the planning area to vehicle and snowmobile use during severe winter conditions is anticipated in one out of seven years. Closure would shift 500 visitor hours of motorized recreation use to other locations.

Reducing disturbance of wintering wildlife during extended periods of severe cold weather would decrease wildlife loss. Human disturbance depletes stored body fat reserves of big game animals, reducing their ability to survive severe winters.

*Manage the Thorn Creek Pilot Riparian area (5,932 acres) to comply with the Federal Clean Water Act and the Governor's Antidegradation Agreement. Continue to operate and manage both the Pilot Riparian Area, the larger Thorn Creek watershed and the Special Recreation Management Area as a demonstration area for multiple-use management, with special emphasis on riparian improvement and outdoor recreation opportunities associated with the stream and the reservoir [19.00].*

The analysis of this action was based on the Thorn Creek Pilot Riparian Area scenario in Appendix B (page 286). Construction of the recreation sites, at a cost of \$75,000, would disturb five acres. Recreation use would increase by 950 visitor hours per year. This is a five percent increase in visitor use. An additional \$800 would be contributed to the local economy each year from the increased visitor use. Littering is expected to rise proportionally with the increase in visitor use.

*Close the meadows in the Thorn Creek Pilot Riparian Area to vehicle use (map symbol F) [19.03].*

The closure area includes approximately 500 acres of the Recreation Opportunity Management Class Semi-primitive Motorized. Fifty visitor hours of recreation use would be displaced from the closure area. Closure of the meadows to motorized vehicle use would help insure the continued improvement of the riparian vegetation.

*Analyze all impacts to riparian areas and wetlands to ensure compliance with Executive Orders 11990 and 11988 [21.00].*

Impacts to riparian areas and wetlands are analyzed under other specific actions contained in this alternative. The majority of this analysis is found under action [2.00] beginning on page 184. That analysis will not be repeated here.

*Allow development of utility systems along existing routes, except in avoidance or exclusion areas identified in other decisions [22.00].*

Impacts of avoidance and exclusion areas for rights-of-way are analyzed under other specific actions contained in this alternative. Those analyses will not be repeated here. Within the planning area, 5,829 acres are identified as exclusion areas for right-of-way grants, 21,814 acres are avoidance areas, and 622,143 acres are open.

*Allow mineral leasing [24.00] and locatable mineral exploration and mining [25.00], providing for protection of the environment through adequate lease stipulations with no surface occupancy as identified in other actions.*

The analysis of this action was based on the oil and gas development scenario in Appendix B (page 280). Cross country travel during geophysical survey activities would disturb 298 acres. Drilling operations would disturb eight acres for the drill pads and another 50 acres for access roads. Wind erosion from the surface disturbance would be 15 tons per year.

Once the field was developed, surface disturbance would decline to 13 acres. Areas disturbed during exploration would be rehabilitated to their previous condition according to desired future vegetation condition objectives. Wind erosion would decline to three tons per year.

For leasable minerals, 10,800 acres are stipulated for no surface occupancy during exploration and development. The remainder of the planning area (98 percent) is stipulation free, except for motorized vehicle limitations and closures.

For locatable minerals, 9,000 acres are identified for withdrawal from mineral entry. The remainder of the planning area (99 percent) is open to mineral entry.

*Limit vehicle use to existing ways and trails in all wilderness study areas [26.12].*

The limitation includes 4,880 acres of the Recreation Opportunity Spectrum Class Roaded Natural, 29,320 acres of Semi-primitive Motorized, and 26,100 acres of Semi-Primitive Non-motorized. No significant impacts to visitor use are anticipated because most of the areas are not accessible to vehicle use.

*Analysis of action [27.00] can be found on page 179.*

## Impacts of Alternative C

The following is a description of the environmental impacts of Alternative C. The impacts described here are only for those actions that are different from Alternative B. Many management actions prescribed in this resource management plan are directed toward dealing with potential future demands on the public land, and toward continuing and enhancing existing management actions consistent with sound resource management. The analysis presented is based on reasonable foreseeable actions (see Appendix B) that might present themselves over the life of this plan. Cumulative impacts, by resource, for each alternative are presented in Table S-1 in the front of this document.

- Issue 1: How will the BLM continue to focus management attention on riparian resources and related uplands?

*Achieve a desired future vegetation condition (Table 2.2) across the planning area by the end of the 20-year planning horizon, by a combination of livestock and fire management, and vegetation manipulation [1.00].*

A general discussion of livestock grazing and vegetation manipulation impacts can be found under this action in Alternative B beginning on page 180.

Vegetation manipulation, wild fire, and application of livestock best management practices would change the vegetation composition of shrubs, grasses, and forbs. Species-rich seedings following the desired future vegetation condition objectives of this plan would result in more mixed vegetation communities. These communities would have greater diversity of plant cover types, community structure, and generally improved production of desirable grasses and forbs. The acres affected by these actions are labeled as mixed seedings.

Generally, the ecological status would improve. Figure 4.1 shows the relative changes in ecological status for all four alternatives compared to the present situation. Figure 4.3 shows the relative changes in the ecological status for Alternatives C and D at the two levels of investment for vegetation manipulation. The early ecological status would decrease by 88,470 acres in the moderate cost scenario, and would decrease by 100,520 in the high cost scenario. The acres in the mid and late seral ecological status would be unchanged in either scenario. Grass seedings would increase by 15,800 acres in the moderate cost scenario, and by 27,400 acres in the high cost scenario. Mixed seedings would increase by 72,670 acres in the moderate cost scenario, and by 73,120 acres in the high cost scenario.

Vegetation production and cover would improve on 69,300 acres as a direct result of planned vegetation manipulation, wild fire rehabilitation, and application of intensive livestock management. Useable forage for livestock and wildlife would increase by 26 percent.

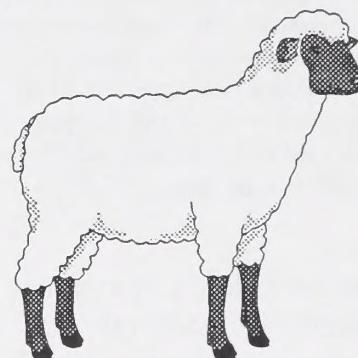
Establishment and maintenance of desired plant communities on upland areas would improve vegetation composition diversity and structure throughout the planning area. A greater number of plant species, age classes of dominant shrubs, and size and form classes of dominant and sub-dominant plant species would add greater diversity to the overall vegetation complex.

Forbs are a very important component of wildlife diets, especially summer succulent forbs. They include the showy wild flowers that beautify the public land in the spring and early summer. They

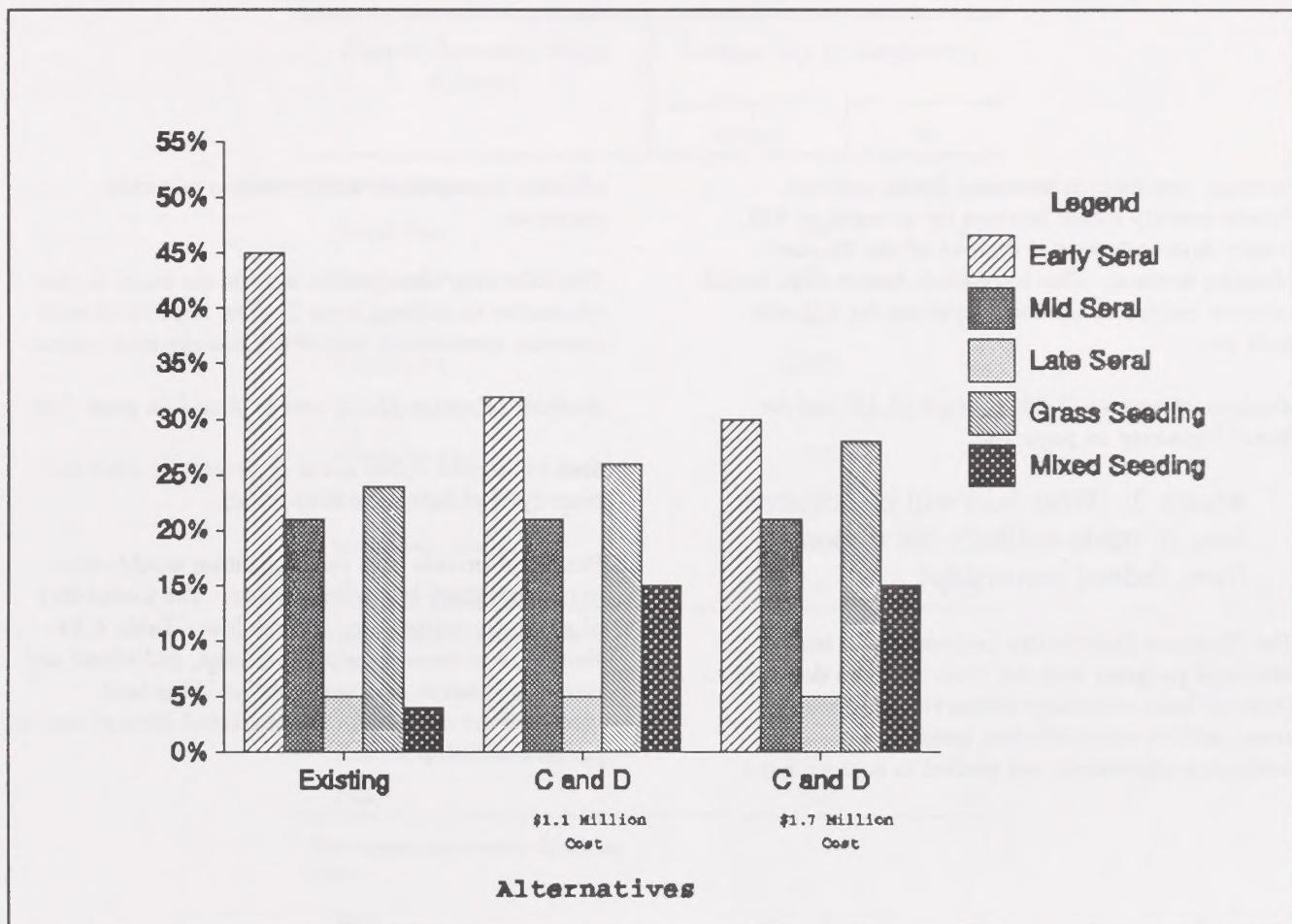
add variety to the diets of domestic grazing animals, and are preferred by sheep. Forbs usually disintegrate more rapidly than grasses when dry, and aid in mineral and organic matter recycling to aid soil fertility and friability.

Perennial grass has many desirable qualities. It provides needed soil cover to protect from wind and water erosion. It also adds organic matter and recycled nutrients to the soil from degraded roots and

shoots. Perennial grasses have fibrous root systems that bind soil and allow more rapid infiltration of precipitation and percolation of that moisture to depth within the soil profile. Grass is the favored dietary component of elk and cattle. Perennial grass in vigorous condition begins growth in early spring. It provides lush nutritious forage for big game animals stressed during the winter by cold and by diets of low nutritive value.



**FIGURE 4.3**  
**Percent of Ecological Status for Alternative C & D**  
**by Investment Level at the End of 20 Years**  
**Bureau of Land Management**  
**Shoshone District, Idaho**



The improved variety of grasses, forbs and shrubs would improve big game habitat. Deer are primarily browsing animals using various shrubs and small trees. However, during certain times of the year, the herbaceous component of the plant community becomes very important. Deer, after a long winter of mostly brush, turn quickly to highly nutritious early spring grasses and flowers (forbs) to regain strength. A variety of both early and late growing species adds dependability to the forage resource for resident deer. Yearlong resident deer have the same nutrient requirements as those deer that migrate. However,

their yearlong nutritional needs must be satisfied on a more confined area.

Elk are primarily grazing animals that use herbaceous plant species for food rather than shrubs and small trees. Cured grasses and forbs are used during the winter, along with some use of shrubs and small trees. During the spring and fall, elk need a variety of grass and forb species.

The quality of wildlife habitat in the planning area would improve. Big game populations would

increase, resulting in increased hunter activity. Hunter activity would increase by as much as 819 hunter days each year at the end of the 20-year planning horizon. This increase in hunter days would increase income to the local economy by \$31,400 each year.

*Analysis of actions [2.00] through [2.13] can be found beginning on page 185.*

- Issue 2: What land will be acquired into, or made available for disposal from, federal ownership?

The Shoshone District has implemented a land exchange program with the State of Idaho designed to block up land ownership within wilderness study areas, and for more efficient management. Land ownership adjustments are needed to achieve more

efficient management and utilization of public resources.

The following management actions are made in this alternative to address Issue 2. The impacts of each decision immediately follow the management action.

*Analysis of action [3.00] can be found on page 194.*

*Seek to acquire 4,066 acres of private or state land (map symbol J on Map 2.4) [4.00].*

Pursuit of private land for acquisition would occur only when there is a willing seller. The probability of acquiring private land is very low. Table 4.14 shows the increase in wildlife habitat, and visual and recreation classes that would occur if the land identified for acquisition is transferred from private to public ownership.

**TABLE 4.14**  
**Increases in Resource Values Resulting from**  
**Land Tenure Adjustments of Alternative C**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Kind of Resource Value Affected	Increase due to Acquisition	
	acres	%
<b>Wildlife Habitat</b>		
Crucial Deer	563	<1
Yearlong Deer	2,121	<1
Winter Elk	184	<1
Yearlong Elk	2,500	<1
Crucial Antelope	266	<1
Winter Antelope	384	<1
Yearlong Antelope	2,153	<1
Crucial Sage grouse	563	<1
Yearlong Sage grouse	2,121	<1
<b>Visual Resource Management</b>		
Class		
Class II	2,553	1
Class III	1,399	<1
Class IV	84	<1
<b>Recreation Opportunity Spectrum</b>		
Class		
Rural	0	0
Roaded Natural	1,353	1
Semi-primitive Motorized	2,313	<1
Semi-primitive Non-motorized	280	<1

Acquisition of the private land would increase the Federal Government's Payment In Lieu of Taxes by \$400 per year. This increase in tax payments by the government would be offset by the decrease in private property taxes paid. The amount of the decrease in

property tax payments is dependent on the value and current use of the land. Because of the variability of values and uses, no estimate of the change in taxes is made.

Impacts to saleable and leasable minerals would be neutral since the acquired land is not currently available for mineral activity. Of the area identified for acquisition, 365 acres are considered to have a moderate potential for the occurrence of gold, and 853 acres have a high potential for the occurrence of diatomite. The land includes 1,229 acres considered prospectively valuable for geothermal resources, and 1,575 acres considered having a low potential for the occurrence of oil or gas resources.

*Analysis of actions [4.02], [4.03], [4.05] and [17.07] can be found beginning on page 197.*

● Issue 3: How will public resources along the north rim of the Snake River Canyon be managed and for what uses?

During the scoping process, much public attention was focused on the area bounded by the Snake River rim on the south, Interstate 84 on the north, and US Highway 93 on the west. Due to its proximity to the city of Twin Falls, increased recreation use, and the public's increased environmental awareness of the Snake River, this area contains many important public resource values. Besides the high recreation use, the area contains significant historical value (remnants of the Oregon Trail), also wildlife habitat, livestock forage, saleable mineral materials, an Area of Critical Environmental Concern (Vineyard Lake), and portions are proposed for transfer into state ownership. Coordinated and focused management is needed to avoid conflict between the public users and degradation of the resources.

The following management actions are made in this alternative to address Issue 3. The impacts of each decision immediately follow the management action.

*Establish 5,236 acres as the Snake River Rim Special Recreation Management Area (map symbol R on Map 2.3) to be managed with emphasis on dispersed recreational opportunities [5.00].*

The analysis of this management action was based on the Snake River Rim Special Recreation Management Area scenario in Appendix B (page 296).

Development of facilities by the BLM to help manage recreation use in the area would convert 35 acres from a Roaded Natural to a Rural recreation opportunity classification.

BLM construction would increase soil compaction on an additional 35 acres. The effects would be localized and confined to the actual construction site during the short-term. The sandy and sandy-loam soils would not show long-term affects on the rate of moisture infiltration.

Thirty five acres of vegetation and wildlife habitat would be lost. Loss of vegetation would decrease livestock grazing preference by two animal unit months. The reduction in preference is less than one percent of the affected allotments. There would be no appreciable impact on annual livestock industry operating costs.

The anticipated visitor use increases with development of recreation facilities is shown in Appendix B, Table B-2. Use would increase by over 739 visitor hours each year through the fifth year of the plan and would then increase approximately two percent per year from years 5 through 20. In years 5 through 20, visitor use would be five percent higher than without the facilities. At the end of the planning horizon, use in the rim area is projected to be 116,300 visitor hours per year. This is a 52 percent increase in the visitor use from the current levels.

Increased visitor use would increase soil wind erosion by 29 tons per year. Based on current visitor use correlations, reports of human-caused fires would increase by one percent (one report) per year, and criminal incidents would increase by five percent (four reports) per year. Littering is expected to rise proportionally with the increase in visitor use. Increased visitor use would contribute an additional \$3,300 per year to the local economy.

*Analysis of actions [5.02] through [5.04], [5.07] through [5.09], and [5.14] can be found beginning on page 198.*

● Issue 4: Is there a need for protecting the Resource Area's critical resource values through special management designation?

During the scoping process, the BLM received formal nominations for Areas of Critical Environmental Concern. Additionally, there are other special designations that can be made to focus management attention. These designations include, but are not limited to, Special Recreation Management Areas for providing specific recreation opportunities, Significant Caves to focus management attention on important cave resources, Conservation Areas or Research Natural Areas for the protection or enhancement of research opportunities, etc. Selection and use of the appropriate designation, if any, is based on evaluation of the critical resource values. *The Wild and Scenic Rivers Act* (1968) requires the BLM to study and make recommendations on waterways for inclusion in the National Wild and Scenic Rivers System. This planning effort will determine eligibility, tentative classification, and interim management of wild and scenic rivers as part of this issue.

The following management actions are made in this alternative to address Issue 4. The impacts of each decision immediately follow the management action.

*The Big Wood, Dry Creek and King Hill river segments are determined suitable for consideration by Congress for inclusion in the National Wild and Scenic Rivers System. See action 7.00 for management of Dry Creek and King Hill Creek. Initiate the wild and scenic river study process, within one year of the Record of Decision, on eligible segments of the Snake River. Study will be conducted in accordance with the Memorandum of Understanding with the State of Idaho [6.00].*

See Appendix D for a discussion of the recommendation for suitability.

*Analysis for actions [6.02], [6.03], [6.06], and [6.07] can be found beginning on page 200.*

*Close the Big Wood River, suitable for wild and scenic river designation (map symbol F), to motorized*

*vehicle use [6.08] and designate as an exclusion area (map symbol O) for land use authorizations [6.09].*

The area included in the closure is inaccessible to motorized vehicles. There would be no change to the 55 acres of Recreation Opportunity Spectrum Class Roaded Natural. No change in the visitor use patterns would occur because of the closure.

The area contains six existing rights-of-way. There would be no impact to these existing authorizations. However, no new authorizations may be granted and the existing highway right-of-way would be unable to expand.

The area contains one existing right-of-way for State Highway 75. There would be no impact to this existing authorization. However, no new authorizations may be granted and the existing highway Right-of-way would not be able to expand.

*Analysis of actions [7.00], [7.02], [7.03], [7.05], [7.06], and [7.08] can be found beginning on page 201.*

*Withdraw (map symbol S) the Box Canyon, Vineyard Lake, Kings Crown, Dry Creek, Fir Grove, Camas Creek, King Hill Creek (amends the Jarbidge RMP) and T-Maze Areas of Critical Environmental Concern from mineral entry [7.09].*

There are 14 claims totaling 286 acres in the T-Maze Area of Critical Environmental Concern withdrawal area. This is eight percent of the total number of claims in the Bennett Hills, and three percent of the total claim acreage. These existing claims would not be affected by the withdrawal, however, no future claims may be staked within the 10,043 acres of the T-Maze withdrawal. A total of 763 acres in the Box Canyon (51 acres), King Hill Creek (653 acres) and Vineyard Lake (59 acres) are considered having a moderate potential for the occurrence of gold.

*Analysis of actions [7.12] and [7.14] can be found beginning on page 203.*

*Close the Kings Crown Area of Critical Environmental Concern to livestock grazing. Close the Dry Creek Research Natural Area/Area of Critical*

*Environmental Concern to livestock grazing and trailing below the canyon rim. Close the Camas Creek Area of Critical Environmental Concern to livestock grazing, except for sheep trailing within the wing fences at Macon Sheep Bridge and with no overnight stays (see actions 1.00 - 1.04) [7.15].*

Livestock closure in the Dry Creek Area of Critical Environmental Concern would decrease livestock use by 110 animal unit months. No reduction in grazing preference would occur. It is anticipated that this use can be absorbed by the allotments without significant impact. Changes in trailing practices would increase annual livestock industry operating costs by \$500 per year.

Fencing the Camas Creek Area of Critical Environmental Concern would move 37 animal unit months of livestock use outside the area. Stream bank stability would increase on 1.5 stream miles by elimination of mechanical dislodging of soil by livestock trampling. The increased bank stability and improved vegetation production and cover would decrease stream bank erosion by three tons per year. Most sediment deposition in the area occurs from soil erosion on private land upstream.

*Analysis of actions [7.17], [7.22], [8.04] and [8.05] can be found beginning on page 204.*

### ● Management Concerns

Management concerns focus on use conflicts, law or policy, or resource conditions that have not been identified during the scoping process as issues. Nevertheless, these concerns require management attention to anticipate future needs and avoid developing into issues in future years. In most cases, these topics are neither highly controversial (based on public scoping) nor different between alternatives, but need to be fully considered in the planning process.

The following management actions are made in this alternative to address management concerns. The impacts of each decision immediately follow the management action.

*Include 6,896 acres in the Wildlife Isolated Tracts Program (map symbol D) to maintain or improve the*

*quality and integrity of wildlife habitat. The primary objective is to maintain or improve the integrity of existing winter, escape and nesting cover for upland game birds [9.00].*

The analysis of this action was based on the Wildlife Isolated Tracts scenario in Appendix B (page 288). Vegetation manipulation treatments would occur on 1,027 acres. Treatment costs would be \$24,800 over the life of the plan. Treatments would improve nesting, escape and thermal cover for pheasants. Pheasant populations would increase. The increase in populations would increase hunter activity by 3,573 hunter days annually at the end on the 20-year planning horizon. This increase in hunter activity would add an additional \$145,400 each year.

*Prohibit vehicle use (map symbol L) within wildlife isolated tracts except for approved existing uses [9.-04]. Pursue legal public access to wildlife isolated tracts on a priority basis as identified by the Habitat Management Plan [9.06].*

Closure of the tracts to vehicles would decrease motorized visitor use by 360 visitor hours per year. Another 360 visitors hours of use would shift to open areas of public land. Improved access to wildlife isolated tracts would provide the public a greater opportunity to view and hunt wildlife. Hunters and people engaged in watchable wildlife activities would increase visitor use by 250 visitor hours per year.

The net visitors use of wildlife isolated tracts would decrease by 110 visitor hours per year. Recreation contributions to the local economy would decrease by \$370 annually.

*Close all wildlife isolated tracts to livestock grazing, unless authorized under a cooperative agreement compatible with the management objectives for the tracts [9.09].*

Of the area closed to livestock grazing, 2,640 acres are not currently allotted for livestock grazing. An additional 2,706 acres currently used by livestock would have livestock preference reduced by actions [12.09] and [12.10], and 667 acres would have livestock preference reduced by action [12.00]. The ecological impacts of this preference reduction are

analyzed on page 213. The remaining 883 acres within wildlife isolated tracts would be segregated from grazing allotments without reducing livestock preference.

Removal of livestock would increase the volume of vegetation remaining on the tracts going into the winter. The increased vegetation would improve nesting, escape and thermal cover for pheasants. Pheasant populations would increase.

*Analysis of action [10.00] can be found beginning on page 205.*

*Provide 55,058 animal unit months of active grazing preference (see Table A-1 in Appendix A for allotment specific detail) [12.00].*

Impacts to vegetation from livestock grazing are difficult to evaluate. Because of the interrelationship between season, kind and numbers, the positive effect of a season change may be neutralized by the negative impact from a change in kind or numbers. Because of this interconnection, the impacts of these three livestock factors must be considered together.

Considering the combined effects of livestock kind, season of use, and stocking numbers, this alternative would result in a negative impact to vegetation on 48,200 acres, a positive effect on 421,600 acres, while the rest of the planning area would show no change from the current situation. Negative impacts would be reflected in decreased vegetation vigor, seed production, productivity and diversity. The ecological impacts of this alternative are found on page 213.

The proposed changes in grazing periods of use would increase annual livestock industry operating costs by \$93,400 compared to the present grazing periods. This increase is based on the need to find private pasture to replace the lost periods on public land or, in some cases, a reduction in annual livestock industry operating costs as public grazing periods replace private pasture.

There would be no change in the economic situation of the livestock industry from the 1984-1992 nine-year average actual use levels. The need to increase livestock management intensity was analyzed on page

205. The net affect of this action only would be to increase the annual livestock industry operating costs by \$114,400 per year.

*Analysis of actions [12.01], [12.03], [12.09], [12.10], [12.11], [15.01], [16.00] through [16.03], and [16.07] can be found beginning on page 208.*

*Designate 80 acres along US Highway 93 and State Highway 75 (Twin Falls to Ketchum) as the River to the Mountains Special Recreation Management Area for a geological interpretive auto tour, construct a hiking trail to the top of Black Butte and develop parking adjacent to State Highway 75 at the Black Butte trail head [17.01].*

Construction of the parking area and hiking trail, at a cost \$17,500, would increase visitor use by 1,500 visitor hours per year. The printed auto tour is not expected to draw new use to the route. Rather, it would provide an added opportunity for travelers on the highway. Some increased use is expected at the associated sites including Pillar Falls overlook, Devils Corral, T-Maze Caves, Little Wood River, and Magic Reservoir. Visitor use would increase by 2,000 visitor hours per year.

Human-caused fires and vandalism would each increase by one incident per year. Littering is expected to rise proportionally with the increase in visitor use. The increased visitor use would contribute \$7,600 to the local economy.

*Establish 29,188 acres as the Gooding City of Rocks Special Recreation Management Area (map symbol R), 2,452 acres as the Magic Reservoir Special Recreation Management Area, and 3,243 acres as the Mormon Reservoir Special Recreation Management Area. Note: acreage for the Magic Reservoir area includes only the Bennett Hills planning area and does not reflect acreage on the Monument Resource Area side [17.04].*

The analysis of this action was based on the Little City of Rocks Special Recreation Management Area, and the Mormon and Magic Reservoir recreation scenarios in Appendix B (page 294). The parking and trail construction at the Little City of Rocks would cost \$67,000. Construction of the recreation

## Management Concerns

facilities at Mormon Reservoir would cost \$24,000 and \$200,000 for Magic Reservoir.

The recreation sites at Mormon Reservoir would disturb 22 acres. The recreation sites at Magic Reservoir would disturb 12 acres. Development of potable water at Mormon and Magic would increase ground water use by 150,000 gallons per year. This is approximately two percent of the water that can be pumped from one domestic or stock water well without a state permit.

Visitor use would increase by 1,000 visitor hours per year at the Little City of Rocks, 3,100 visitor hours per year (7 percent) at Mormon Reservoir and 3,000 visitor hours (3 percent) per year at Magic Reservoir. The increased visitor use would contribute a combined \$6,300 annually to the local economy. Human-caused fires and vandalism would increase by one incident each, at each area, as visitor use increases.

*Designate 55 miles of the Bliss-Hill City (map symbol H) and Davis Mountain (map symbol U) roads as Back Country Byways [17.10].*

The analysis of this action was based on the Bliss-Hill City Back Country Byway scenario in Appendix B (page 294). Cost of byway signing, promotion, and development of primitive recreation sites would be \$77,400. Visitor use would increase by 900 visitor hours annually. An additional \$3,100 would be contributed annually to the local economy.

Road maintenance costs would increase by \$500 per year along the 26 miles of the Bliss-Hill City Byway. This increased maintenance would be the responsibility of Gooding and Camas Counties because the road is part of the county road network. Maintenance costs would not be incurred along the Davis Mountain Byway because this route would be for four-wheel-drive use.

*Remove all facilities and rehabilitate the Little Drops recreation site [17.12].*

The site is currently semi-developed for recreation use. Cost to remove and rehabilitate the site would

be \$500. No significant decrease in visitor use would occur.

*Seek to acquire Big Wood Canal Company water shares to enhance recreational fishing opportunities between Magic Reservoir and the Richfield diversion in the Magic Reservoir Special Recreation Management Area [17.13].*

The average number of shares held by a canal shareholder is 120. At an average price of \$350 per share, the cost of purchasing shares would be \$42,000. An additional charge of \$1,600 per year would be made by the canal company for annual maintenance costs.

Purchase of these shares would ensure 120 acre-feet of water would go down the Big Wood River channel each year. This flow would provide a reliable water source for fisheries habitat in that segment of the river.

*Analysis for actions [18.01], [18.03], [19.00], [19.03], [21.00] through [26.13] can be found beginning on page 211.*

*Manage forests to meet desired future condition and forest health goals rather than wood fiber production. [27.00].*

Analysis of action [27.00] can be found on page 179.

## Impacts of Alternative D

The following is a description of the environmental impacts of Alternative D. The impacts described here are only for those actions that are different from Alternative B. Many management actions prescribed in this resource management plan are directed toward dealing with potential future demands on the public land, and toward continuing and enhancing existing management actions consistent with sound resource management. The analysis presented is based on reasonable foreseeable actions (see Appendix B) that might present themselves over the life of this plan. Cumulative impacts, by resource, for each alternative are presented in Table S-1 in the front of this document.

- Issue 1: How will the BLM continue to focus management attention on riparian resources and related uplands?

*Analysis of actions [1.00] through [1.28] can be found beginning on page 213. Analysis of actions [2.00] through [2.11] can be found beginning on page 180.*

- Issue 2: What land will be acquired into, or made available for disposal from, federal ownership?

The Shoshone District has implemented a land exchange program with the State of Idaho designed to block up land ownership within wilderness study areas and for more efficient management. Land ownership adjustments are needed to achieve more efficient management and utilization of public resources.

The following management actions are made in this alternative to address Issue 2. The impacts of each decision immediately follow the management action.

*Make available for disposal from public ownership 36,044 acres by exchange only (map symbol B), 632 acres by sale or exchange (map symbol C), and 324 acres as State of Idaho In-Lieu selection (map symbol I). Priority for exchange will be given to state exchanges as identified in the Conceptual Exchange Plan Agreement between Shoshone District BLM and the State of Idaho [3.00].*

Table 4.15 shows the decrease in wildlife habitat, and visual and recreation classes that would occur if the land identified for sale and In-Lieu selection is transferred from public ownership and converted to other uses. It is assumed that 632 acres of public land disposed of by sale (map symbol C on Map 2.3) and 324 acres by In-Lieu selection (map symbol I on Map 2.3) would be converted to commercial or agricultural (farming) uses.

Disposal of public land by sale and In-Lieu selection would decrease the Federal Government's Payment In Lieu of Taxes to counties by \$100 each year. This loss of revenue would be replaced by tax payments

made by the new land owner(s). The amount of new tax payments is dependent on the value of the land and the use to which the land is converted. Because of the variability of values and uses, no estimate of the increase in taxes is made.

Disposal of public land by sale and In-Lieu selection would decrease grazing preference by 12 animal unit months. Grazing fee receipts to the government would decrease by \$19 per year. These decreases would occur only at the time of disposal. Until disposal occurs, the land would still be available for livestock grazing. Annual livestock industry operating costs would increase by \$75.

Land identified for exchange includes 6,614 animal unit months of grazing preference. The land acquired through the exchange process would return some amount of grazing use. However, the acquired land may be outside the planning area.

Table 4.15 shows the acres of big game habitat on land identified for exchange. Private or state land received in exchange for public land may have value as big game habitat. However, the acquired land may not have the same value or support the same species as the disposed public land.

None of the public land under Desert Land Entry is identified for disposal.

The rim area under the exchange proposal currently supports 76,250 visitor hours per year. If the state held the land as is, no change in recreation use would occur. The state, to maximize returns for the endowment fund, may charge for recreation use. If the land was leased or sold to private interests the area may be restricted for recreation use. Under the last two possibilities the recreation use pressure would be shifted to other public land and possibly private land. The exchange may be a loss of "backyard" recreation opportunities for the Magic Valley communities.

*Analysis of actions [4.02], [4.03], [4.05] and [17.07] can be found beginning on page 197.*

TABLE 4.15  
 Decreases in Resource Values Resulting from  
 Land Tenure Adjustments of Alternative D  
 Bureau of Land Management  
 Shoshone District, Idaho

Kind of Resource Value Affected	Decrease from Sale and In Lieu		Decrease from Exchange		Total Decreases	
	acres	%	acres	%	acres	%
<b>Wildlife Habitat</b>						
Crucial Deer	274	<1	1,875	<1	2,149	<1
Yearlong Deer	155	<1	0	0	155	<1
Winter Elk	196	<1	123	<1	319	<1
Yearlong Elk	155	<1	0	0	155	<1
Crucial Antelope	12	<1	0	0	12	<1
Winter Antelope	326	<1	7,381	3	7,707	3
Yearlong Antelope	164	<1	0	0	164	<1
Crucial Sage grouse	10	<1	0	0	10	<1
Yearlong Sage grouse	155	<1	0	0	155	<1
<b>Visual Resource Management Class</b>						
Class II	240	<1	644	<1	884	<1
Class III	386	<1	28,860	8	29,246	8
Class IV	323	<1	6,400	9	6,723	9
<b>Recreation Opportunity Spectrum Class</b>						
Rural	0	0	3,450	37	3,450	37
Roaded Natural	736	<1	13,600	12	14,336	13
Semi-primitive Motorized	213	<1	18,860	4	19,073	4
Semi-primitive Non-motorized	0	0	0	0	0	0

- Issue 3: How will public resources along the north rim of the Snake River Canyon be managed and for what uses?

During the scoping process, much public attention was focused on the area bounded by the Snake River rim on the south, Interstate 84 on the north, and US Highway 93 on the west. Due to its proximity to the

city of Twin Falls, increased recreation use, and the public's increased environmental awareness of the Snake River, this area contains many important public resource values. Besides the high recreation use, the area contains significant historical value (remnants of the Oregon Trail), also wildlife habitat, livestock forage, saleable mineral materials, an Area of Critical Environmental Concern (Vineyard Lake), and portions are proposed for exchange into state

ownership. Coordinated and focused management is needed to avoid conflict between the public users and degradation of the resources.

The following management actions are made in this alternative to address Issue 3. The impacts of each decision immediately follow the management action.

*Exchange land, formerly included in the Snake River Rim Special Recreation Management Area, with the State of Idaho as per action 1.00 of this alternative [5.00].*

No recreation facilities would be constructed in the Snake River rim area. Recreation use in the area is projected to increase at a rate of 2% per year. At the end of the planning horizon, use in the rim area would be approximately 111,000 visitor hours per year. This is a 46% increase in the visitor use of the Snake River rim after 20 years. See the analysis of the land disposal actions under Issue 2 above for the potential impacts to recreation use from disposal of the rim area to the State of Idaho.

*Withdraw Vineyard Lake and Creek area and Cauldron Linn (map symbol S on Map 2.5) from locatable mineral exploration and entry [5.02].*

Withdrawal from mineral activity under the 1872 mining law would decrease mineral exploration opportunities on 286 acres. The withdrawal area contains 163 acres considered to have a moderate potential for the occurrence of gold. There are currently no claims on record within this area.

*Close Cauldron Linn (map symbol E on Map 2.5) to material sales and free use permits [5.03].*

The closure would decrease the saleable mineral area by 108 acres. There are currently no active pits or permits for the removal of mineral material in the closure areas.

*Stipulate no surface occupancy for leasable mineral (oil and gas) exploration and development in the Cauldron Linn area (map symbol K on Map 2.5) [5.04].*

The stipulation of no surface occupancy for leasable mineral exploration and development applies to 108

acres. The entire stipulation area is considered to have a low potential for the occurrence of oil or gas resources. But, is considered prospectively valuable for geothermal resources. There are currently no leases in the stipulation area.

*Analysis of action [5.07] can be found on page 198.*

*Limit motorized vehicle use on 108 acres in Cauldron Linn (map symbol L) to signed roads and trails [5.08].*

Limitation of 108 acres to motorized vehicle use would not change the current Roaded Natural and Semi-primitive Motorized recreation opportunity classifications. No impacts would occur to visitor use patterns in the limitation area.

- Issue 4: Is there a need for protecting the Resource Area's critical resource values through special management designation?

During the scoping process, the BLM received formal nominations for Areas of Critical Environmental Concern. Additionally, there are other special designations that can be made to focus management attention. These designations include, but are not limited to, Special Recreation Management Areas for providing specific recreation opportunities, Significant Caves to focus management attention on important cave resources, Conservation Areas or Research Natural Areas for the protection or enhancement of research opportunities, etc. Selection and use of the appropriate designation, if any, is based on evaluation of the critical resource values. The *Wild and Scenic Rivers Act* (1968) requires the BLM to study and make recommendations on waterways for inclusion in the National Wild and Scenic Rivers System. This planning effort will determine eligibility, tentative classification and interim management of wild and scenic rivers as part of this issue.

The following management actions are made in this alternative to address Issue 4. The impacts of each decision immediately follow the management action.

*The Big Wood, Dry Creek and King Hill river segments are determined not suitable for consideration by Congress for inclusion in the National Wild and Scenic Rivers system. See action 7.00 for management of Dry Creek and King Hill Creek. Initiate the wild and scenic river study process, within one year of the Record of Decision, on eligible segments of the Snake River. Study will be conducted in accordance with the Memorandum of Understanding with the State of Idaho [6.00].*

See Appendix D for a discussion of the recommendation for non-suitability.

*Analysis for actions [6.02], [6.03], and [6.06] through [6.09] can be found beginning on page 200.*

*Analysis of actions [7.00] through [8.05] can be found beginning on page 201.*

### ● Management Concerns

Management concerns focus on use conflicts, law or policy, or resource conditions that have not been identified during the scoping process as issues. Nevertheless, these concerns require management attention to anticipate future needs and avoid developing into issues in future years. In most cases, these topics are neither highly controversial (based on public scoping) nor different between alternatives, but need to be fully considered in the planning process.

The following management actions are made in this alternative to address management concerns. The impacts of each decision immediately follow the management action.

*Include 5,802 acres in the Wildlife Isolated Tracts Program (map symbol D) to maintain or improve the quality and integrity of wildlife habitat. The primary objective is to maintain or improve the integrity of existing winter, escape and nesting cover for upland game birds [9.00].*

The analysis of this action was based on the Wildlife Isolated Tracts scenario in Appendix B (page 288). The loss of acres in the Wildlife Isolated Tracts program is because of the identification of 36,044

acres by exchange (see management action 3.00 on page 223).

Vegetation manipulation treatments would occur on 1,027 acres. Treatment costs would be \$24,800 over the life of the plan. Treatments would improve nesting and thermal cover for pheasants. Pheasant populations would increase.

*Prohibit vehicle use (map symbol L) within wildlife isolated tracts except for approved existing uses [9.04]. Pursue legal public access to wildlife isolated tracts on a priority basis as identified by the Habitat Management Plan [9.06].*

Closure of the tracts to vehicles would decrease motorized visitor use by 300 visitor hours per year. Another 300 visitors hours of use would shift to open areas of public land. Improved access to wildlife isolated tracts would provide the public a greater opportunity to view and hunt wildlife. Hunters and people engaged in watchable wildlife activities would increase visitor use by 243 visitor hours per year.

The net visitors use of wildlife isolated tracts would decrease by 57 visitor hours per year. Recreation contributions to the local economy would decrease by \$200 annually.

*Close all wildlife isolated tracts to livestock grazing, unless authorized under a cooperative agreement compatible with the management objectives for the tracts [9.09].*

Of the area closed to livestock grazing, 2,276 acres are not currently allotted for livestock grazing. An additional 2,445 acres currently used by livestock would have livestock preference reduced by actions [12.09] and [12.10], and 511 acres would have livestock preference reduced by action [12.00]. The ecological impacts of this preference reduction are analyzed on page 213. The remaining 570 acres within wildlife isolated tracts would be segregated from grazing allotments without reducing livestock preference.

Removal of livestock would increase the volume of vegetation remaining on the tracts going into the winter. The increased vegetation would improve

nesting, escape and thermal cover for pheasants. Pheasant populations would increase.

*Analysis of action [10.00] can be found beginning on page 205.*

*Analysis of actions [12.00], [12.01], [12.03], [12.09], [12.10], [12.11], [15.01], [16.00] through [16.03], and [16.07] can be found beginning on page 208.*

*Designate 80 acres along US Highway 93 and State Highway 75 (Twin Falls to Ketchum) as the River to the Mountains Special Recreation Management Area for a geological interpretive auto tour, construct a hiking trail to the top of Black Butte, and develop parking adjacent to State Highway 75 at the Black Butte trail head [17.01].*

Construction of the parking area and hiking trail, at a cost \$17,500, would increase visitor use by 1,500 visitor hours per year. The printed auto tour is not expected to draw new use to the route. Rather, it would provide an added opportunity for travelers on the highway. Some increased use is expected at the associated sites including Pillar Falls overlook, Devils Corral, T-Maze Caves, Little Wood River, and Magic Reservoir. Visitor use would increase by 2,000 visitor hours per year.

Human-caused fires and vandalism would each increase by one incident per year. Littering is expected to rise proportionally with the increase in visitor use. The increased visitor use would contribute \$7,600 to the local economy.

*Establish 29,188 acres as the Gooding City of Rocks Special Recreation Management Area (map symbol R), 2,452 acres as the Magic Reservoir Special Recreation Management Area, and 3,243 acres as the Mormon Reservoir Special Recreation Management Area. Note: acreage for the Magic Reservoir area includes only the Bennett Hills planning area and does not reflect acreage on the Monument Resource Area side [17.04].*

The analysis of this action was based on the Little City of Rocks Special Recreation Management Area and the Mormon and Magic Reservoir recreation scenarios in Appendix B (pages 294 and 296). The

parking and trail construction at the Little City of Rocks would cost \$67,000. Construction of the recreation facilities at Mormon Reservoir would cost \$24,000 and \$200,000 for Magic Reservoir.

The recreation sites at Mormon Reservoir would disturb 22 acres. The recreation sites at Magic Reservoir would disturb 12 acres. Development of potable water at Mormon and Magic would increase ground water use by 150,000 gallons per year. This is approximately two percent of the water that can be pumped from one domestic or stock water well without a state permit.

Visitor use would increase by 1,000 visitor hours per year at the Little City of Rocks, by 3,100 visitor hours per year (7 percent) at Mormon Reservoir and by 3000 visitor hours (3 percent) per year at Magic Reservoir. The increased visitor use would contribute a combined \$6,300 annually to the local economy. Human-caused fires and vandalism would increase by one incident each, at each area, as visitor use increases.

*Designate 55 miles of the Bliss-Hill City (map symbol H) and Davis Mountain (map symbol U) roads as Back Country Byways [17.10].*

The analysis of this action was based on the Bliss-Hill City Back Country Byway scenario in Appendix B (page 294). Cost of byway signing, promotion, and development of primitive recreation sites would be \$77,400. Visitor use would increase by 900 visitor hours annually. An additional \$3,100 would be contributed annually to the local economy.

Road maintenance costs would increase by \$500 per year along the 26 miles of the Bliss-Hill City Byway. This increased maintenance would be the responsibility of Gooding and Camas Counties because the road is part of the county road network. Maintenance costs would not be incurred along the Davis Mountain Byway because this route would be for four-wheel-drive use.

*Remove all facilities and rehabilitate the Little Drops recreation site [17.12].*

## Management Concerns

The site is currently semi-developed for recreation use. Cost to remove and rehabilitate the site would be \$500. No significant decrease in visitor use would occur.

*Analysis for actions [18.01], [18.03], [19.00], [19.03], and [21.00] through [27.00] can be found beginning on page 211.*

## Impacts to Bruneau Resource Area

The impacts described here are associated with the designation of the 800 acres along the west side of King Hill Creek as an Area of Critical Environmental Concern in coordination with the same designation along the east side within the Bennett Hills planning area. These impacts are limited to the Bruneau Resource Area as a result of amending the Jarbridge Resource Management Plan (1987) to designate the Area of Critical Environmental Concern.

The restrictions for leasable and locatable minerals would prohibit future mineral activity in the area. The area stipulated as "no surface occupancy" for leasable minerals is potentially valuable for oil and gas development. However, the potential is considered low and there are currently no claims within the area.

The closure to off-highway vehicles would have minimal impact since less than 1% of the area is considered accessible for vehicle use. The exclusion of rights-of-way through the area would mean a possible four-mile diversion. However, there are currently no rights-of-way through the area because of the steep and rocky terrain, and the high cost of construction and maintenance of facilities.

Reintroduction of mountain quail along King Hill Creek would require increased control of livestock use in riparian areas through either increased livestock use supervision, construction of gap fences, or a combination of the two. Riparian vegetation production and cover would increase on 63 acres, and five stream miles would experience increased stream bank stability. The increased stream bank stability would reduce off-site sedimentation by 13 tons per year.

Livestock operation costs would increase by \$2,070. This cost increase assumes the sharing of cost for a full-time rider on the riparian areas with operators on the Bennett Hills side. No change in livestock preference or season of use is anticipated.

## Irreversible and Irretrievable Commitments of Resources

Implementation of any of the alternatives would limit potential future uses of the land and resources to some extent. The preferred alternative would result in the following irreversible or irretrievable commitments of resources.

Wildlife habitat would be modified on transferred land. This would benefit some species and adversely affect others.

Grazing preference would be lost with the transfer of land from public ownership. Transfer of land from public ownership would result in a loss of administrative control for all resource values, except mineral values when reserved to the government, and rights-of-way on those parcels.

# Chapter Five: Consultation and Coordination

This Resource Management Plan was prepared by an interdisciplinary team of specialist from the Shoshone District Office. The complex planning process described in Chapter 1 included resource inventory, public participation, interagency coordination, and preparation of a management situation analysis (on file at the Shoshone District Office).

## Public Participation

The BLM's policies and regulations mandate that all concerned and affected individuals, from public land users to public land managers, have a voice in the process. Therefore, to insure compliance with the *National Environmental Policy Act* regulations, public participation in this planning effort has been on-going since it was initiated in 1990.

Consultation and coordination with agencies, organizations, industry, and key individuals has occurred in a variety of ways throughout the planning process. Public meetings, informal meetings, newsletters, individual contacts, letters, and *Federal Register* notices have been utilized to involve the public in the preparation of this document.

## Key Dates

The following is a list of the key dates relevant to public participation in the Bennett Hills Resource Management Planning effort.

September 20, 1990

The BLM publishes in the *Federal Register* the Notice Of Intent to prepare a Resource Management Plan and Environmental Impact Statement and invites the public to comment.

September 20, 1990

BLM issues a news release to 29 individuals and news media announcing the publication of the Notice of Intent to prepare a Resource Management Plan.

September 27, 1990

BLM issues a news release to 29 individuals and news media announcing the location of six open houses to determine issues for the Resource Management Plan.

September 28, 1990

BLM mails a letter to 255 individuals and organizations announcing the preparation of the Bennett Hills Resource Management Plan and invites participation.

October 1, 1990

BLM mails a letter to 129 grazing operators announcing the preparation of the Bennett Hills Resource Management Plan and invites participation.

October 4, 1990

The BLM meets with the Shoshone District Grazing Advisory Board to discuss the plan.

October 11, 1990

The BLM meets with the Shoshone District Multiple Use Advisory Council to discuss the plan.

October 15-26, 1990

The BLM conducts six open houses throughout the Magic Valley to solicit public comment.

November 29, 1990

BLM issues a news release to 29 individuals and news media announcing the draft planning issues for the Resource Management Plan.

December 1, 1990

BLM mails a letter to 550 individuals, grazing operators and organizations announcing the draft issues and criteria for

## Key Dates

preparation of the Bennett Hills Resource Management Plan and invites participation.

December 12-20, 1990

The BLM conducts five open houses throughout the Magic Valley to solicit public comment on draft planning issues and criteria.

January 10, 1991

The BLM meets with the Shoshone District Multiple Use Advisory Council to discuss the planning issues and criteria.

February 5, 1991

BLM mails a letter to 427 individuals, grazing operators and organizations announcing the final issues and criteria for the Bennett Hills Resource Management Plan and invites comments.

May 1, 1991

BLM issues a news release to 29 individuals and news media announcing the final planning issues and criteria for the Resource Management Plan.

May 9, 1991

The BLM meets with the Shoshone District Multiple Use Advisory Council to discuss the planning issues and criteria.

July 30, 1991

BLM mails an update letter to 425 individuals, grazing operators and organizations for the Bennett Hills Resource Management Plan and invites comments.

September 12, 1991

BLM issues a news release to 29 individuals and news media announcing the Wild and

Scenic eligibility determinations for the Resource Management Plan.

October 24, 1991

The BLM meets with the Shoshone District Multiple Use Advisory Council to discuss the planning issues and criteria, Wild and Scenic River eligibility, and draft alternatives.

October 30, 1991

The BLM meets with the Shoshone District Grazing Advisory Board to discuss alternatives and vegetation objectives of the plan.

March 25, 1992

Presentation of RMP alternatives to the Shoshone District Multiple Use Advisory Council.

March 26, 1992

Presentation of Desired Plant Community concepts to the Shoshone District Grazing Advisory Board.

May 19, 1992

Shoshone District Multiple Use Advisory Council recommends Alternative D as BLM's preferred alternative.

## Consistency Review

Prior to approval of the proposed management plan, the State Director will submit the plan to the Governor of Idaho and identify any known inconsistencies with state or local plans, policies, or programs. The governor will have 60 days in which to identify inconsistencies and provide recommendations in writing to the State Director. The consistency of the plan with the resource related plans, programs, and policies of other federal agencies, state and local government, and Indian tribes will be re-evaluated in the future as part of the

formal monitoring and periodic evaluations of the plan.

## Comment and Protest Procedures

Anyone wishing to make comments for the District Manager's consideration in the development of the decision should submit comments by @@@@ to:

Shoshone District Manager  
Bureau of Land Management  
400 West F Street  
P.O. Box 2-B  
Shoshone ID 83352

The plan decisions will be based on the analysis contained in the Environmental Impact Statement, additional data available, public opinion, management feasibility, policy, and legal constraints. Anyone who participated in the planning process and has an interest that is or may be adversely affected by approval of the proposed resource management plan may file a written protest with the BLM Director within 30 days of the date the Environmental Protection Agency publishes the notice of receipt of the proposed Resource Management Plan and final Environmental Impact Statement in the *Federal Register*. Protests should be sent to:

Bureau of Land Management (WO 760)  
Division of Planning and Environmental  
Coordination  
1849 C Street NW (406 LS)  
Washington DC 20240

The protest shall contain the name, mailing address, telephone number, and interest of the person filing the protest; a statement of the issues being protested (raising only those issues that were submitted for the record during the planning process); a statement of the parts of the plan being protested; copies of all documents addressing the issues submitted during the planning process by the party, or an indication of the date the issues were discussed for the record; and a concise statement explaining why the State Director's decision is believed to be wrong.

The Director shall render a prompt written decision on the protest, setting forth the reasons for the

decision. The decision shall be sent to the protesting party by certified mail and shall be final decision of the Department of the Interior.

## Agencies, Organizations and Individuals Consulted

### Federal Agencies

Department of Agriculture  
Forest Service  
Soil Conservation Service  
Agricultural Conservation & Stabilization Service  
Department of the Interior  
Bureau of Indian Affairs  
Geological Survey  
Fish & Wildlife Service  
National Park Service  
Bureau of Land Management  
Bureau of Reclamation  
Field Solicitor  
Department of Defense  
Army Corps of Engineers  
Department of the Air Force

Department of Energy  
Bonneville Power Administration  
Federal Energy Regulatory Commission  
Wood River Resource Conservation and Development Committee

### State Agencies

Bureau of Range Management  
Department of Agriculture  
Department of Employment  
Department of Fish and Game  
Department of Health and Welfare  
Department of Lands  
Department of Parks and Recreation  
Department of Transportation  
Department of Water Resources  
Geological Survey  
Historical Society  
Historic Preservation Officer  
Office of the Governor  
Region IV Development Association

## Agencies, Organizations and Individuals Consulted

### City, County and Other Government

Shoshone-Bannock Tribes

#### County Commissioners

Blaine County  
Camas County  
Elmore County  
Gooding County  
Jerome County  
Lincoln County  
Twin Falls County

#### Planning and Zoning Commissions

Blaine County  
Gooding County  
Jerome County  
Lincoln County  
Minidoka County

#### Soil Conservation Districts

Camas County  
Gooding County  
Twin Falls County  
Wood River Valley

#### City of Twin Falls, Community Development Director

#### Mayors

City of Bellevue  
City of Bliss  
City of Dietrich  
City of Eden  
City of Fairfield  
City of Gooding  
City of Hagerman  
City of Hailey  
City of Hazelton  
City of Jerome  
City of Ketchum  
City of Minidoka  
City of Paul  
City of Richfield  
City of Shoshone  
City of Sun Valley  
City of Wendell

### Elected Officials

Senator Larry Craig  
Senator Steve Symms  
Representative Richard Stallings  
Governor Cecil Andrus  
Ralph Peters

### Groups, Organizations, and Individuals

Glen Allen  
Joe Allen  
Stan Allen  
Richard and Nancy Ambrosi  
American Rivers, Inc.  
American Wilderness Coalition  
R.B. Anderson  
Dr. Robert C. Anderson  
Rest the West  
Jason and Roy Applewhite  
Jim Auclaire  
Audubon Society  
Jerry Baltazor  
Al Bauscher  
Larry Bauscher  
Bob and Mark Beams  
C.B. (Bish) Beymer  
Big Wood Canal Company  
Roland Bingham  
Randy Bird  
Blue Lakes Country Club  
Blue Ribbon Coalition  
Sheldon Bleustein  
Kate Bohmer  
Maureen Boling  
Aldrich Bowler  
Peter A. Bowler  
Sterling Bray  
Roy Breckenridge  
George A. Bridges  
Fred Brossy  
Jeanne Brown  
Rich Brown  
Doran Butler  
College of Southern Idaho-Herrett  
Museum  
Carey School  
Del Carraway  
H.P. Cash

## Agencies, Organizations and Individuals Consulted

Center for Plant Conservation  
Jack Chamberlain  
College of Southern Idaho Library  
Jack and Stella Collins  
Colorado State University Library  
Committee for Idaho's High Desert  
Emma Coupe  
Thomas V. Courtney  
Nick Cozakos  
Milton Davidson  
Cary & Helen DeMoss  
Ron Dillon  
Distinctive Lava Stone  
Clifton Dixon  
Lawrence Drexler  
Ducks Unlimited  
Dorian Duffin  
Arthur J. Dunford  
Environmental Management Services Co.  
Bob Erkins  
Marshall Everheart  
Robert Everson  
Jeff Fereday  
First Security Bank of Idaho  
Jay Fowles  
Eugene D. Fredricksen  
H. Paul Friesema  
Roger Fuhrman  
Mark Garcin  
Gem State Grotto  
Bernard and Carol Gergen  
Dave Gilman  
Tom and Ellen Glaccum  
Glenns Ferry Wildlife Club  
Dick Graves  
Michael Green  
Karen Griggs  
F.F. Gunning  
Hagerman Valley Citizens Alert, Inc.  
Terry Rae Hall  
Glenwin Harris  
Les Hazen  
Carl Henry Hege  
Ruth K. Herrington  
High Country News  
Homestake Mining Company  
Kyle Human  
C. Robert Humphrey  
  
Idaho ATV Association  
Idaho Carey Act Development Assn.  
Idaho Cattle Association  
Idaho Conservation League  
Idaho Farm Bureau Federation  
Idaho Natural Areas  
Coordinating Committee  
Idaho Natural Resources Legal Foundation  
Idaho Outfitters and Guides Assn  
Idaho Power Company  
Idaho Rivers United  
Idaho State Snowmobile Association  
Idaho Trail Machine Association  
Idaho Whitewater Association  
Idaho Wildlife Federation  
Idaho Wildlife Federation Newsletter  
Idaho Woolgrowers Association  
Intermountain Gas Company  
Rayoul Jacobsen  
Jerome Historical Society  
Michael Jessen  
David and LaDona Johns  
Forrest Johnson  
Margaret Johnson  
Kelvin Jones  
Larry R. Jones  
Vaughn Jones  
Kent Just  
Charles Kast  
Don Kester  
Jeff King  
Ralph Klinsky  
Douglas R. Kohntopp  
Landau Associates, Inc.  
Sam Large  
Tom Larsen  
Bert Lee  
Dr. and Mrs. Martin Lee  
Zane and Sara Lindley  
Robert S. Luntey  
Magic Valley Grotto  
Magic Valley Trail Machine Association  
Jim Magill  
Kelly Mai  
Marathon Oil Company  
Jonathan Marvel  
R.D. and Wanda McKinney  
David Mead

## Agencies, Organizations and Individuals Consulted

Jim Meeks  
William and Marilyn Meiners  
Milner Cattle Association  
Minerals Exploration Coalition  
Minidoka Bowmen  
Minidoka Irrigation District  
Bill Mink  
Ed Mitchell  
John & Lorna Moline  
Morgan Associates  
Randall Morgan  
Mount Harrison Snowmobile Club  
National Audubon Society  
National Wildlife Federation  
Native American Career Education in  
Natural Resources  
Natural Resources Defense Council  
Calvin L. Neal  
R.G. Neher  
North Side Canal Company  
Northside Snow Riders  
Janet O'Crowley  
Oregon-California Trails Assn.  
PIC Technologies  
Ronald F. Peck  
Pheasants Forever  
Floyd Phillips  
B. Roy Prescott  
Tom Prescott  
Lee Presley  
Project Mutual Telephone Co.  
Glen Reeder  
Clair and Virginia Ricketts  
William F. Ringert  
J. Evan Robertson  
Sheila Robertson  
Rocky Mountain Oil and Gas Assoc., Inc.  
Twin Falls Rod and Gun Club  
David H. and Aida G. Rodriguez  
Dean Rogers, Jr.  
Mary Lou Roscnyk Joe Rose  
Wesley G. Rose  
John Rosholt  
Ruben Sauer  
Scenic Lands Foundation  
Daryl J. Serr  
Max Serr  
Gene Shuter  
W.D. Siegenthaler

Sierra Club  
Silver Strike Mining Company  
J. Walker Sinclair  
Floyd Slane  
Taylor Smith  
Snake River Route West  
Rod and Susan Sorenson  
Henry Steinmetz  
Fred R. Stewart  
Karl Strout  
George Suchan  
Michael Sullivan  
Sun Valley-Ketchum Chamber of Commerce  
Joseph Swaner  
Jeff Swope  
Steve Tanguy  
Lawrence Tews  
Three-Rapids Coalition  
Richard Tschannen  
Twin Falls Rifle and Pistol Club  
Twin Falls Wildlife Federation  
John Vanderwalker  
H.R. Weixel  
Rex Wells  
West Magic Lake Recreation Club  
Ted Wiegold  
The Wilderness Society  
Hap Wilson  
Wally Wright  
LaVern Young

## List of Preparers

**William H. (Buck) West, Team Leader**  
BS in Range and Forest Management, MS in Systems Ecology, Colorado State University. Buck is the team leader for this draft plan and statement. He has worked 14 years for the BLM.

**Joe Aitken, Realty Specialist**  
BS in Agricultural Economics, University of Idaho. He has worked 12 years for the BLM.

**Dave Krosting, Supervisory Range Conservationist**  
BS in Range Management/Wildlife Management, Oregon State University. He has worked 13 years for the BLM.

**Paula Perletti, Outdoor Recreation Planner**  
BS in Forest Recreation Management, Oregon State University. She has worked two years for the BLM.

**Floyd DeWitt, Soil Scientist**  
BS in Agriculture-Conservation Option, Washington State University. MS in Range Management-Plant ecology emphasis, Washington State University. He has worked 23 years for the BLM.

**John Lytle, Archaeologist**  
BA in Anthropology, University of Wyoming. MA in Anthropology (Archeology), University of Kansas. He has worked 15 years for the BLM.

**Gary Wright, Wildlife Biologist**  
BS in Wildlife Management/Range Management, California State University, Humboldt. He has worked 12 years for the BLM.

**Kim Peterson, Staff Assistant**  
Kim has worked 13 years for the BLM.

**John V. Martin, Economist**  
BS in Agriculture Economics, California Polytechnic State University. MS Natural Resource Economics, University of Nevada-Reno. He has worked 10 years for the BLM.

**Mike Aoi, Assistant Fire Management Officer**  
BS in Computer Science, University of Idaho. He has worked 8 years for the BLM.

**Robert Cordell, Bennett Hills Resource Area Manager**  
BS in Range Management, University of Arizona. He has worked 20 years for the BLM.

**Steven W. Moore, Idaho State Office Geologist**  
BS in Earth Science, California State University, Hayward. MS in Geology, San Jose State University. He is a Registered Professional Geologist in Idaho. He has worked 9 years for the BLM.

**Raymond F. Brainard, Forester**  
BS in Forestry, University of Connecticut. MS in Forest Management, Michigan State University. He has worked 15 years for the BLM.

**Rebecca Smith, Geologist**  
BA in Earth Science, Wesleyan University, Middletown, Connecticut. She has worked two years for the BLM.

**Peter Oberlindacher, Chief, Branch of Solid and Fluid Minerals**  
BA and MS in Geology, San Jose State University. He has worked 13 years for the BLM.

**Philip R. Bigsby, Geologist**  
BA in geology, University of Colorado. MS in geology, Iowa State University. He has worked for the BLM 8 years.

**Larry Ridenhour, Outdoor Recreation Planner**  
BS in Forestry, North Carolina State University. MS in Wildland Recreation Manager University of Montana. He has worked for the BLM two years.

**Marty Sharp, Outdoor Recreation Planner**  
BS in Outdoor Recreation, California State Polytechnic University, Pomona. MS in Wildland Recreation Management, University of Idaho. He has worked 13 years with the BLM.

**Doug Barnum, Supervisory Range Conservationist**  
BS in Range Management, Brigham Young University, Utah. He has worked 15 years for the BLM.



# Appendix A: Livestock Use Data

This appendix contains information on livestock grazing use within the planning area.

Table A-1 shows the proposed livestock grazing use by grazing allotment for each of the four alternatives. The table also provides additional information for each grazing allotment.

See "Special Note" for Table A-1 below.

Table A-2 lists present and proposed selective management categories for all grazing allotments and grazing management plans or agreements by date of approval for certain grazing allotments.

Table A-3 tells what kind of rangeland monitoring studies exist in the grazing allotments and indicates those allotments for which BLM has completed Analysis, Interpretation, and Evaluation documents.

Table A-4 displays the actual grazing use made in each grazing allotment during a nine-year period.

Table A-5 is a compilation of key observations and recommendations regarding livestock grazing of riparian ecosystems from available technical literature. The intended use of the table is to assist in devising grazing strategies for aquatic-riparian areas which have a high probability for success and avoiding grazing strategies with a high probability for failure.

## Special Note for Table A-1

Under each alternative in Table A-1, the words **active grazing preference** appear. Those words also appear in Chapter 2, action [12.00]. It is important to understand what **active grazing preference** is, and

how it differs from **actual grazing use**, which is shown for a nine-year period for every existing grazing allotment in Table A-4. The average yearly **actual grazing use** appears on the right side of Table A-4 and under AUMs for Alternatives C and D on the right side of Table A-1.

**Active grazing preference** is the amount of forage, in animal unit months, which a livestock operator(s) holding a grazing permit on public land may harvest on a defined area called a grazing allotment with a designated number of a certain kind of livestock during a prescribed period of time. Normally, that number of animal unit months is the maximum amount of forage removal allowed. However, **temporary non-renewable grazing use** within that grazing allotment may be authorized by BLM beyond the **active grazing preference** provided certain conditions are met (see Chapter 2, action [12.01]).

**Actual grazing use** is the actual amount of forage removal, expressed in animal unit months, which takes place by livestock within a grazing allotment in a given year. Normally, the **actual grazing use** is equal to or less than **active grazing preference**. But sometimes **actual grazing use** may exceed **active grazing preference** if the full **active grazing preference** was used, and **temporary non-renewable grazing use** and/or **unauthorized grazing use** (grazing trespass) occurred.

The present **active grazing preference** for all existing allotments, kinds of livestock, and periods of grazing use totals 82,301 animal unit months and is shown in the Alternative A column heading in Table A-1.

Likewise, the proposed **active grazing preference** totals 79,777 animal unit months for Alternative B in Table A-1.

On the other hand, the nine-year average **actual grazing use** (Table A-4) for all grazing allotments, except those proposed for cancellation is 54,751 animal unit months. That is the proposed **active grazing preference** for the entire 20-year planning horizon for Alternative C in Table A-1.

Similarly, the 54,751 animal unit months **actual grazing use** for the nine-year average is proposed as the initial active grazing preference for Alternative D in Table A-1.

Alternatives C and D appear together in the same column on the right side of Table A-1. They were placed together because they seem identical in the sense that the beginning point is the same with respect to the proposed kind of livestock, period of grazing use, and level of stocking. But, they are different. First, the similarities are described, and then the one important difference is explained:

#### Similarities Between Alternatives C and D

- Kind of Livestock. The general trend in conversion from sheep grazing to cattle grazing is expected to continue. In both alternatives conversion would be negotiated in accordance with the Shoshone District's Conversion Policy, but any agreement reached between the livestock operator(s) and BLM would include all requirements for agreements or decisions shown in Chapter 2, action [12.00].

The requirements for action [12.00] apply to Alternative B as well as Alternatives C and D for both conversion in kind of livestock and changes in class of livestock. An example of a change in class of livestock is to replace yearling steers with cow/calf pairs. Refer to the discussion of grazing habits of livestock on page 173. Such a change would require BLM review and approval.

- Period of Grazing Use. The grazing seasons shown in Table A-1 for Alternatives C and D are expected to allow accomplishment of water quality improvement or maintenance goals, of desired future vegetation condition goals described in Chapter 2, action [1.00], and of other land use plan goals for most of the planning area. Departures from the proposed grazing use periods would be considered if other grazing use periods could be shown to make an equal or greater contribution toward achievement of the stated goals. For both alternatives, the period of grazing use may have to be negotiated from the dates shown if monitoring studies show that the goals could not be met. Any agreement reached between the livestock operator(s), and BLM from negotiated periods of grazing use would include all requirements for agreements or decisions shown in Chapter 2, action [12.00].

#### Differences Between Alternatives C and D

- Stocking Level. Alternatives C and D are described separately.

Alternative C - The nine-year average actual grazing use of 54,751 animal unit months would become the active grazing preference. On an overall basis this represents no change from existing on-the-ground stocking levels. However, during the planning horizon, BLM may determine the stocking level on certain grazing allotments needs to be adjusted downward because land use plan water quality goals, plant community composition goals, plant community structure goals, or other goals are not being met. On grazing allotments where prescribed grazing management has been closely adhered to by the livestock operator(s), and the objectives are being met, BLM may determine stocking level could be increased. However, the overall stocking level of 54,751 animal unit months of forage consumed, including temporary non-renewable grazing use, would not be exceeded with Alternative C. Adjustments in stocking level for individual allotments, both upward and downward, would be made within the prescribed level of 54,751 animal unit months. All requirements for agreements or decisions shown in Chapter 2, action [12.00] would apply.

Alternative D - The nine-year average actual grazing use of 54,751 animal unit months represents the initial active grazing preference, which at first represents no change from existing stocking levels. Over the planning horizon, BLM may be able to establish an overall stocking level between 54,751 animal unit months and the 79,777 animal unit months proposed for Alternative B. Such a stocking level would be based on the assessment of progress toward meeting the land use plan goals for all grazing allotments collectively. As in Alternative C, those grazing allotments in which the goals are not being met may be faced with downward stocking level adjustments. But, with Alternative D, those grazing allotments in which the land use plan goals are being met and maintained, could have the stocking level increased collectively above the 54,751 animal unit months level proposed for Alternative C. Again, all requirements or decisions shown in Chapter 2, action [12.00] would apply.

**TABLE A-1**  
**Proposed Livestock Grazing Use**  
**By Allotment, Kind of Livestock, Period of Use,**  
**and Animal Unit Months (AUMs) for Each Alternative**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Allotment Name  * An asterisk indicates the grazing allotment contains an aquatic riparian zone or zones	Alternative A Present Active Grazing Preference				Alternative B Proposed Active Grazing Preference (Based on Existing Land Use Plan, Modified by Management Agreements)				Alternatives C and D Proposed Active Grazing Preference (Based on the 1984-1992 Actual Use)						
	Remains constant at 82,301 AUMs				Remains constant at 79,777 AUMs				C Remains constant at 55,058 AUMs						
	Kind	Period of Use		AUMs	Foot-note	Kind	Period of Use		AUMs	Foot-note	Kind	Period of Use		AUMs	Foot-note
		Begin	End				Begin	End				Begin	End		
Antelope	Cattle	04/07	07/31	1,372	1,2,3	Cattle	04/07	07/07	1,372	1,2,3	Cattle	04/07	06/15	1,374	1,2,3
Barren	Cattle	04/16	05/31	72	4	Cattle	04/16	05/31			Cattle	04/16	05/31	16	5
Base Line *	Cattle	07/08	08/24	138		Cattle	07/20	09/15	138	143	Cattle	06/01	06/21	116	55
Big Wood	Cattle	10/01	12/05	12	4	Cattle	10/01	12/05			Proposed Cancellation of Permit	6,7	Proposed Cancellation of Permit	6,7	
Black Butte	Cattle	06/01	06/30	4	53	Cattle	06/01	06/30			Proposed Cancellation of Permit	7,23	Proposed Cancellation of Permit	7,23	
Black Canyon *	Cattle	04/16	08/31	3,989	54	Cattle	04/16	06/30	3,989	54,	Cattle	04/16	08/31	3,232	54,55
	Horse	04/16	08/31	61		Horse	04/16	06/30	61	55	Horse	04/16	08/30	49	
Blue Lakes	Cattle	04/25	05/16	20	4	Cattle	04/25	05/16			Proposed Cancellation of Permit	5	Proposed Cancellation of Permit	5	
Briggs Creek	Cattle	05/03	10/15	11		Cattle	05/03	10/15			Proposed Cancellation of Permit	7	Proposed Cancellation of Permit	7	
Camp I	Cattle	04/16	09/15	1,725	4,8,9	Cattle	04/16	09/15	1,622	9,10	Cattle	04/16	09/15	1,735	11
	Sheep	04/01	06/30	237		Sheep	04/01	06/30	223		Sheep	04/01	06/30	291	
	Sheep	10/16	12/31	44		Sheep	10/16	12/31	41		Sheep	10/16	11/30	85	
Camp II	Cattle	05/01	08/31	68		Cattle	05/01	08/31	68		Cattle	04/01	04/30	68	

Allotment Name	Alternative A Present Active Grazing Preference				Alternative B Proposed Active Grazing Preference (Based on Existing Land Use Plan, Modified by Management Agreements)				Alternatives C and D Proposed Active Grazing Preference (Based on the 1984-1992 Actual Use)					
	<u>Remains constant at 82,301 AUMs</u>				<u>Remains constant at 79,777 AUMs</u>				<u>C Remains constant at 55,058 AUMs</u> <u>D is Negotiable between 55,058-79,777 AUMs</u>					
	Kind	Period of Use		AUMs	Foot-note	Kind	Period of Use		AUMs	Foot-note	Kind	Period of Use		AUMs
		Begin	End				Begin	End				Begin	End	
Camp III	Cattle	03/16	04/15	19	4		Proposed Cancellation of Permit		5			Proposed Cancellation of Permit		5
	Cattle	11/16	12/15	19										
	Cattle	03/16	07/15	2,649	12	Cattle	11/15	07/15	2,570	12, 13	Cattle	11/16	02/28	1,999
						Cattle	04/16	09/22	68		Cattle	04/16	06/15	12,13
	Cattle	04/16	09/22	68		Cattle	04/16	06/15	2,595	56	Cattle	04/05	06/10	
						Cattle	10/16	11/30	784		Cattle	10/16	11/30	1,336
	Cattle	04/05	06/10	2,595	4,56	Sheep	04/01	06/15	2,007		Sheep	04/01	06/10	404
						Sheep	10/16	11/30	499		Sheep	10/01	11/30	1,033
	Cattle	11/01	11/30	784										257
	Cattle	04/05	06/10	2,007										
	Cattle	10/16	12/31	499										
	Cattle	11/10	06/15	305	14,	Sheep	04/01	06/15	46	15,	Cattle	04/16	06/15	63
					15,	Sheep	09/16	11/15	45	16,	Cattle	09/16	11/15	63
					16					17,				16,
										18				17, 18
	Cattle	05/15	08/15	60		Cattle	05/15	08/15	60		Cattle	05/15	06/15	48
														55
	Cattle	03/01	04/04	4	59		Proposed Cancellation of Permit		57			Proposed Cancellation of Permit		57
	Cattle	06/16	10/31	134		Sheep	06/16	10/31	134		Cattle	06/01	06/21	134
	Cattle	05/01	05/20	142	62	Cattle	05/01	05/20	142	61,	Cattle	04/16	04/30	54
					143	Cattle	10/01	10/15	143	62	Cattle	10/01	10/15	54
														62

Allotment Name  * An asterisk indicates the grazing allotment contains an aquatic riparian zone or zones	Alternative A Present Active Grazing Preference				Alternative B Proposed Active Grazing Preference (Based on Existing Land Use Plan, Modified by Management Agreements)				Alternatives C and D Proposed Active Grazing Preference (Based on the 1984-1992 Actual Use)				
	<u>Remains constant at 82,301 AUMs</u>				<u>Remains constant at 79,777 AUMs</u>				<u>C Remains constant at 55,058 AUMs D is Negotiable between 55,058-79,777 AUMs</u>				
	Kind	Period of Use Begin	End	AUMs	Kind	Period of Use Begin	End	AUMs	Kind	Period of Use Begin	End	AUMs	Foot-note
Davis Mountain *	Cattle	04/01	11/30	3,079	63,	Cattle	04/01	11/30	3,079	Cattle	04/16	06/30	1,870
	Sheep	05/01	07/20	391	64,	Sheep	05/01	07/20	391	Cattle	10/01	11/30	672
	Sheep	11/15	12/30	298	65,	Sheep	11/15	12/30	298	Sheep	04/16	06/30	323
					66,				Sheep	10/01	11/30	246	55, 55
					67								
Deer Creek *	Cattle	06/16	08/31	421	125	Cattle	06/16	07/15	305	Cattle	06/01	06/21	272
	Cattle	04/16	06/15	1,506	68,	Cattle	04/16	06/15	1,506	Cattle	04/16	06/15	642
	Cattle	11/01	11/30	779	69,	Cattle	11/01	11/30	779	Cattle	11/01	11/30	332
	Sheep	04/01	06/15	141	70	Sheep	04/01	06/15	141	Sheep	04/01	06/15	60
	Sheep	10/16	12/15	105		Sheep	10/16	12/15	105	Sheep	10/16	11/30	45
Dinky	—	—	—	0									
Ear Creek *	Cattle	06/01	10/15	388		Cattle	06/01	07/15	388				
East Spring Creek *	Cattle	06/01	08/31	43	71								
Elk Creek *	Cattle	06/01	10/15	222	127	Cattle	06/01	07/15	222	127,	Cattle	06/01	06/21
Fairfield	Cattle	05/15	06/15	74		Cattle	06/01	06/15	74	55	Cattle	05/15	06/15
Finch	Cattle	07/01	01/01	5	19								19
Flat Top				0									19

Allotment Name	Alternative A Present Active Grazing Preference				Proposed Active Grazing Preference (Based on Existing Land Use Plan, Modified by Management Agreements)				Alternative B				Alternatives C and D Proposed Active Grazing Preference (Based on the 1984-1992 Actual Use)		
	<u>Remains constant at 82,301 AUMs</u>				<u>Remains constant at 79,777 AUMs</u>				<u>C Remains constant at 55,058 AUMs</u> <u>D is Negotiable between 55,058-79,777 AUMs</u>						
	Kind	Period of Use		AUMs	Foot-note	Kind	Period of Use		AUMs	Foot-note	Kind	Period of Use		AUMs	Foot-note
		Begin	End				Begin	End				Begin	End		
Forty-Acre	Cattle	04/01	05/15	7	4	Proposed Cancellation of Permit			5		Proposed Cancellation of Permit			5	
	Cattle	10/01	11/15	7											
Forty-Six	Cattle	05/01	06/10	17	75	Proposed Cancellation of Permit			7,23		Proposed Cancellation of Permit			7,23	
Fricke *	Cattle	04/16	06/15	4	76	Proposed Cancellation of Permit			7,77		Proposed Cancellation of Permit			7, 77	
Goodtime	Cattle	04/10	06/11	1,127	4,	Cattle	04/10	06/11	1,127	22,	Cattle	04/10	06/11	793	22, 60
	Cattle	10/15	12/31	1,669	21,	Cattle	10/15	11/30	1,669	60	Cattle	10/15	11/30	1,174	
	Sheep	04/01	06/15	378	60	Sheep	04/01	06/15	513		Sheep	04/01	06/15	361	
Goose Lake	Cattle	04/16	12/15	6		Proposed Cancellation of Permit			7,		Proposed Cancellation of Permit			7, 20,	
									20,					23	
Gunnery	Cattle	04/09	06/04	992	24	Cattle	04/09	06/04	1,359	24,	Cattle	04/09	06/04	901	
	Sheep	11/10	12/31	231		Sheep	11/10	12/31	317	25					
Gwin Ranch	Cattle	07/01	08/30	62	78	Cattle	07/01	08/30	62	78	Cattle	06/01	06/21	32	55
Hansen	Horse	04/01	07/31	7		Proposed Cancellation of Permit			7, 26		Proposed Cancellation of Permit			7, 26	
Hash Springs *	Cattle	04/20	04/30	100	79	Cattle	05/25	10/31	300	80	Cattle	05/25	06/15	135	55
	Cattle	06/15	09/15	300		Sheep	05/25	10/31	80		Sheep	09/01	09/30	181	
	Horse					Horse	05/25	10/31	20						
Hazelton	Sheep	03/20	04/10	50	27	Sheep	04/24	09/24	27	27,	Sheep	04/01	04/10	26	4, 27,
Hog Creek*	Cattle	11/01	12/31	139	69,	Cattle	05/01	05/30	139	46,	Cattle	05/01	05/21	123	46, 55
				81					55						

Allotment Name	Alternative A Present Active Grazing Preference				Alternative B Proposed Active Grazing Preference (Based on Existing Land Use Plan, Modified by Management Agreements)				Alternatives C and D Proposed Active Grazing Preference (Based on the 1984-1992 Actual Use)					
	<u>Remains constant</u> at 82,301 AUMs				<u>Remains constant</u> at 79,777 AUMs				<u>C Remains constant</u> at 55,058 AUMs <u>D is Negotiable between</u> 55,058-79,777 AUMs					
* An asterisk indicates the grazing allotment contains an aquatic riparian zone or zones	Kind	Period of Use Begin	End	AUMs	Kind	Period of Use Begin	End	AUMs	Kind	Period of Use Begin	End	AUMs	Foot-note	
	Cattle	06/01	08/05	56	125	Cattle	06/01	07/15	67	55, 128	Cattle	06/01	06/21	51
Hot Springs *	Cattle	08/05	10/15	56									55, 128	
Hunt	Cattle	05/01	09/30	326		Cattle	05/01	09/30	326		Cattle	04/01	04/30	98
Indian *	Cattle	04/07	12/31	3,339	82, 463	Cattle	04/16	06/30	1,670	46, 55	Cattle	04/16	06/30	889
	Sheep	04/01	05/30	83,	Cattle	10/01	11/30	1,669	Cattle	10/01	11/30	888	46, 55	
	Sheep	10/16	12/31	215	84,	Sheep	04/01	06/30	463	Sheep	04/01	06/30	246	
	Horse	04/07	06/10	21	85	Sheep	10/01	11/30	215	Sheep	10/01	11/30	114	
						Horse	04/01	06/30	21	Horse	04/01	06/30	12	
Interstate	Cattle	01/01	04/30	179	4,29	Proposed Cancellation of Permit				5,29	Cattle	01/01	02/28	179
											Cattle	04/01	04/30	5,29
Jerome	Cattle	04/20	07/15	91		Cattle	05/01	09/16	90	30	Cattle	04/16	05/15	67
King Hill *	Cattle	04/20	05/31	1,616	86, 87	Cattle	04/20	05/31	1,616	86, 87	Cattle	04/20	05/31	865
	Cattle	10/19	11/30	1,616		Cattle	10/19	11/30	1,616		Cattle	10/19	11/30	865
Kinzie Butte *	Cattle	05/01	07/31	794	88	Cattle	05/01	07/31	794	88	Cattle	05/01	06/30	794
Lagoon *	Cattle	05/15	08/15	150		Proposed Cancellation of Permit				7	Proposed Cancellation of Permit			
Land Lock				0		Proposed Cancellation of Permit				19	Proposed Cancellation of Permit			
Lava Pot	Cattle	04/16	06/04	60		Proposed Cancellation of Permit				23	Proposed Cancellation of Permit			
Long Gulch *	Cattle	07/21	09/24	235	64	Cattle	06/01	07/30	235	55	Cattle	06/01	06/21	190
													55	

Allotment Name	Alternative A Present Active Grazing Preference				Alternative B Proposed Active Grazing Preference (Based on Existing Land Use Plan, Modified by Management Agreements)				Alternatives C and D Proposed Active Grazing Preference (Based on the 1984-1992 Actual Use)						
	<u>Remains constant at 82,301 AUMs</u>				<u>Remains constant at 79,777 AUMs</u>				<u>C Remains constant at 55,058 AUMs D is Negotiable between 55,058-79,777 AUMs</u>						
Kind	Period of Use		AUMs	Foot-note	Kind	Period of Use		AUMs	Foot-note	Kind	Period of Use		Foot-note		
	Begin	End				Begin	End				Begin	End			
Macon Flat *	Cattle	05/01	06/15	4,534	89	Cattle	05/01	06/15	4,534	89	Cattle	05/01	06/15	3,039	89
	Sheep	05/01	06/30	1,284		Sheep	05/01	06/30	1,284		Sheep	05/01	06/30	861	
	Sheep	10/16	12/15	124		Sheep	10/16	12/15	124		Sheep	10/16	12/15	83	
Malad		0				Proposed Cancellation of Permit					Proposed Cancellation of Permit			19	
McHan Creek	Cattle	06/16	09/30	63	125	Cattle	06/01	07/15	39	55,	Cattle	06/01	06/21	28	55,
									129					129	
Mill Canyon	Cattle	05/01	08/15	44	130	Cattle	05/01	07/15	44	55,	Cattle	06/01	06/21	0	55,
									130					131	
Milner Dam	Cattle	04/01	06/30	63		Proposed Cancellation of Permit					Proposed Cancellation of Permit			31,	31, 32
Milner Plot	Cattle	03/01	02/28	400		Cattle	04/01	04/30	449	33	Cattle	04/08	06/15	400	
Mink *	Cattle	07/16	09/15	76	90,	Cattle	06/01	07/30	76	55,	Cattle	06/01	06/21	8	55
					91,				91,						
					92				92						
Myrtle Point	Cattle	05/01	09/30	20	91,	Proposed Cancellation of Permit					Proposed Cancellation of Permit			94	
					93										
Nasura		0	4			Proposed Cancellation of Permit					Proposed Cancellation of Permit			5	
NE Interstate	Cattle	04/16	09/15	24		Proposed Cancellation of Permit					Proposed Cancellation of Permit			7	
North Gooding *	Sheep	04/16	06/15	2,518	95	Sheep	04/16	06/15	2,344	55,	Sheep	04/16	06/15	1,010	55, 95
	Sheep	10/16	12/15	1,347		Sheep	10/01	11/30	1,347	95	Sheep	10/01	11/30	540	

Allotment Name  * An asterisk indicates the grazing allotment contains an aquatic riparian zone or zones	Alternative A Present Active Grazing Preference				Alternative B Proposed Active Grazing Preference (Based on Existing Land Use Plan, Modified by Management Agreements)				Alternatives C and D Proposed Active Grazing Preference (Based on the 1984-1992 Actual Use)						
	<u>Remains constant at 82,301 AUMs</u>				<u>Remains constant at 79,777 AUMs</u>				<u>C Remains constant at 55,058 AUMs</u>						
	Kind	Period of Use		AUMs	Foot-note	Kind	Period of Use		AUMs	Foot-note	Kind	Period of Use		AUMs	Foot-note
		Begin	End				Begin	End				Begin	End		
North Milner	Cattle	05/01	10/15	4,400	4,34	Cattle	05/01	10/15	4,400	34	Cattle	05/01	10/15	4,419	34
	Sheep	04/01	06/15	240		Sheep	04/01	06/15	240		Sheep	04/01	06/15	240	
	Sheep	10/16	12/31	165		Sheep	10/16	11/30	165		Sheep	10/16	11/30	165	
North Shoshone *	Cattle	05/01	09/30	10,508	96,	Cattle	05/01	09/30	11,685	96,	Cattle	05/01	09/30	5,339	98,
	Sheep	10/16	12/15	1,177	97,					97,				99,	
				98,					98,				99,		
				99,					99,				100		
Northside	Cattle	04/16	08/21	210	4	Cattle	05/01	05/31	68	35	Cattle	04/01	04/30	79	35
						Cattle	07/01	07/31	68		Cattle	07/01	07/31	79	
North Slope	Cattle	05/11	11/30	94		Cattle	07/01	10/15	94	101	Cattle	09/16	10/15	16	101
Notch Butte	Cattle	04/16	09/15	1,688	36	Cattle	04/16	09/15	1,884	36	Cattle	04/16	09/15	1,688	36
NW Interstate				0		Proposed Cancellation of Permit				19	Proposed Cancellation of Permit				19
One-O-One	Cattle	07/01	10/31	61	102,	Cattle	03/01	05/31	730	38,	Cattle	04/08	05/31	524	105,
	Cattle	11/01	04/16	847	103,	Cattle	11/01	11/30	61	102,	Cattle	11/01	11/30	264	38
				104					105						
Philips Creek	Cattle	05/16	07/17	26	125	Cattle	05/16	07/15	20	55,	Cattle	06/01	06/21	19	55,
									132					132	
Piney	Cattle	06/01	07/18	84	133	Cattle	06/01	07/18	43		Cattle	06/01	06/21	0	134
Pioneer	Cattle	04/08	06/07	230	106	Cattle	04/08	06/07	230	106	Cattle	04/08	06/07	230	
	Cattle	10/01	11/30	230					230				11/30	230	

Allotment Name	Alternative A Present Active Grazing Preference				Alternative B Proposed Active Grazing Preference (Based on Existing Land Use Plan, Modified by Management Agreements)				Alternatives C and D Proposed Active Grazing Preference (Based on the 1984-1992 Actual Use)						
	<u>Remains constant at 82,301 AUMs</u>				<u>Remains constant at 79,777 AUMs</u>				<u>C Remains constant at 55,058 AUMs</u>						
Kind contains an aquatic riparian zone or zones	Period of Use Begin	End	AUMs	Foot-note	Kind	Period of Use		AUMs	Foot-note	Kind	Period of Use		AUMs	Foot-note	
						Begin	End				Begin	End			
Pocket	Cattle	04/08	05/31	390	4	Cattle	04/16	05/31	85	37	Cattle	04/08	05/31	278	37
	Sheep	04/01	09/30	92		Sheep	04/01	06/30	30		Sheep	04/01	06/30	30	30
	Sheep	11/01	12/31	298		Sheep	11/01	12/31	65		Sheep	11/01	11/30	65	65
Pole Line	Cattle	04/16	06/15	441		Cattle	04/16	06/15	441		Cattle	04/16	05/15	196	
	Cattle	10/01	11/30	441		Cattle	10/01	11/30	441		Cattle	10/01	10/30	197	
Pothole	Cattle	05/01	05/31	295	65,	Cattle	05/01	05/31	295	65,	Cattle	05/01	05/31	177	
				141					141						
Powell Creek	Cattle	06/15	10/08	36	125,	Cattle	06/01	07/15	17	55,	Cattle	06/01	06/21	36	55,
				135					136					136	
	Cattle	04/16	04/30	3		Cattle	04/16	04/30	3		Cattle	04/16	04/30	3	
Quail	Cattle	10/01	11/10	16		Cattle	10/01	11/10	16		Cattle	10/01	10/31	14	14
	Cattle	04/16	05/15	20		Proposed Cancellation of Permit				20	Proposed Cancellation of Permit				20
Quaker	Cattle	09/01	09/15	10											
	Cattle	05/01	08/05	1,500	107,	Cattle	05/01	08/05	1,500	107,	Cattle	05/01	08/05	1,064	
Rattlesnake *				108,					108,						
				109,					109,						
Rift	Cattle	05/01	06/30	33		Proposed Cancellation of Permit				20	Proposed Cancellation of Permit				20
	Cattle	08/01	10/15	27											
River *	Cattle	10/16	12/15	80		Cattle	04/01	05/30	80	38	Cattle	10/01	10/31	42	38
	Sheep	05/25	06/08	60		Sheep	05/25	06/08	60		Sheep	05/25	06/08	6	6
Roanhide *	Cattle	10/01	10/15	60		Sheep	10/01	10/15	60		Sheep	10/01	10/15	6	6

Allotment Name	Alternative A Present Active Grazing Preference		Alternative B Proposed Active Grazing Preference (Based on Existing Land Use Plan, Modified by Management Agreements)		Alternatives C and D Proposed Active Grazing Preference (Based on the 1984-1992 Actual Use)								
	<u>Remains constant at 82,301 AUMs</u>		<u>Remains constant at 79,777 AUMs</u>		<u>C Remains constant at 55,058 AUMs D is Negotiable between 55,058-79,777 AUMs</u>								
	Kind	Period of Use Begin      End	AUMs	Foot-note	Kind	Period of Use Begin      End	AUMs	Foot-note	Kind	Period of Use Begin      End	AUMs	Foot-note	
Rock Flat	Cattle	04/16	07/15	60	4	Cattle	06/01	07/15	391	55,	Cattle	06/01	06/21
Rough Creek *	Cattle	08/01	09/15	460	125	Cattle	04/07	06/08	867	137	Cattle	04/07	06/08
Sand Butte	Cattle	04/07	06/08	795		Cattle	09/21	10/21	419		Cattle	09/21	10/21
Sand Springs	Cattle	10/21	11/20	391		Cattle	05/01	10/31	12		Cattle	04/07	06/08
Schooler Creek *	Cattle	07/21	11/09	20		Cattle	04/07	10/15	341	40	Cattle	04/07	04/30
Seven Mile	Cattle	04/07	10/15	341	41,	Cattle	05/11	05/29	71	42	Cattle	09/15	10/15
Sheep Point *	Cattle	05/11	05/29	90	125	Cattle	04/16	07/15	51	43	Cattle	05/11	05/29
Short Line *	Cattle	04/16	07/15	59	4	Sheep	06/01	06/30	42		Sheep	06/01	06/30
Soldier *	Sheep	06/01	06/30	42		Sheep	09/01	09/27	38		Sheep	09/01	09/27
South Gooding	Sheep	09/01	09/27	38		Cattle	04/15	05/20	44		Cattle	04/15	05/20
South Milner	Cattle	04/15	05/20	44		Cattle	04/01	09/30	1,536	44	Cattle	04/01	09/30
	Horse	05/16	10/15	8									

\* An asterisk indicates the grazing allotment contains an aquatic riparian zone or zones

Allotment Name	Alternative A Present Active Grazing Preference				Alternative B Proposed Active Grazing Preference (Based on Existing Land Use Plan, Modified by Management Agreements)				Alternatives C and D Proposed Active Grazing Preference (Based on the 1984-1992 Actual Use)				
	<u>Remains constant</u> at 82,301 AUMs				<u>Remains constant</u> at 79,777 AUMs				<u>C Remains constant</u> at 55,058 AUMs <u>D is Negotiable between</u> 55,058-79,777 AUMs				
* An asterisk indicates the grazing allotment contains an aquatic riparian zone or zones	Kind	Period of Use		AUMs	Foot-note	Kind	Period of Use		AUMs	Foot-note	Kind	Period of Use	
		Begin	End				Begin	End				Begin	End
Spillway *	Cattle	09/01	09/19	253	112, 113, 114	Cattle	09/01	09/19	253	113, 114	Cattle	09/01	09/19
Springdale	Cattle	05/01	07/22	31	115	Cattle	05/01	07/31	39	116	Cattle	05/01	06/15
The Pasture	Cattle	04/16	06/15	72	117	Cattle	04/16	06/15	72	117	Cattle	04/16	05/15
Three-Mile *	Cattle	06/01	10/20	19	125	Cattle	06/01	07/15	13	55, 139	Cattle	06/01	06/21
Ticeska	Cattle	04/01	06/15	642	119	Cattle	04/01	06/15	642	119	Cattle	04/01	05/31
Tunupa	Cattle	11/01	04/15	519	45	Cattle	04/16	05/31	301	45,	Cattle	04/16	05/15
Tuttle *	Cattle	11/01	02/28	46		Cattle	10/16	11/30	218	46	Cattle	10/16	11/30
Vineyard	Cattle	05/01	08/31	200	4	Proposed Cancellation of Permit		Proposed Cancellation of Permit		Proposed Cancellation of Permit		Proposed Cancellation of Permit	
Wendell Cattle	Cattle	04/16	02/28	1,447	4, 49, 50, 51	Cattle	04/16	09/24	1,447	51	Cattle	04/16	09/24
Wendell Trail	Sheep	04/01	06/15	270		Proposed Cancellation of Permit		Proposed Cancellation of Permit		Proposed Cancellation of Permit		Proposed Cancellation of Permit	
	Sheep	11/01	12/31	225									52

Allotment Name	Alternative A Present Active Grazing Preference				Alternative B Proposed Active Grazing Preference (Based on Existing Land Use Plan, Modified by Management Agreements)				Alternatives C and D Proposed Active Grazing Preference (Based on the 1984-1992 Actual Use)					
	<u>Remains constant</u> at 82,301 AUMs				<u>Remains constant</u> at 79,777 AUMs				<u>C Remains constant</u> at 55,058 AUMs <u>D is Negotiable between</u> 55,058-79,777 AUMs					
Kind	Period of Use		AUMs	Foot-note	Kind	Period of Use		AUMs	Foot-note	Kind	Period of Use		AUMs	Foot-note
	Begin	End				Begin	End				Begin	End		
West Bliss	Cattle	04/01	06/30	587	Cattle	04/01	06/30	587	120, 121, 122	Cattle	04/08	06/07	434	
West Pioneer *	Cattle	11/01	04/15	808	Cattle	03/01	05/31	823	123, 124, 38	Cattle	04/08 11/01	05/31 11/30	504 168	
West Spring Creek	Horse	12/01	02/28	15		0	73, 74		0	74, 19			74, 19	
Willow Creek *	Cattle	06/01	09/13	71	Cattle	06/01	07/15	40	140, 55	Cattle	06/01	06/21	34 55, 140	
All Allotments	Various		82,301	N/A	Various		79,777	N/A		Various		55,058	N/A	

1 Combined 1,384 AUMs in the Antelope Allotment with 224 in the Shoshone Allotment in 1988.

2 Land exchange reduced the Antelope Allotment by 236 AUMs.

3 1988 Analysis, Interpretation and Evaluation (AIE) recognizes livestock conversion, but does not recommend 1990 increase to RMP proposed level.

4 Proposed AUM reductions not implemented.

5 Monument RMP proposed cancellation. No AIE or management agreement to maintain current level.

6 Allotment contains only eleven acres of public land.

7 Small size makes it uneconomical to manage.

8 The CAMP I AUMs of 1979 increased by transfer of 227 AUMs from Wendell Trail.

9 Conversion of AUMs from sheep to cattle authorized.

10 AUMs reduced by 6% as per Monument RMP. No AIE or management agreement to maintain current level.

11 Seventy AUMs added to sheep use by transfer from Wendell Trail.

12 Management agreement of 1984 and 1989 establish new season and AUM level. AIE of 1988 supports management agreements.

- 13 Reduction of 79 AUMs below the Snake River Rim to eliminate recreation and riparian conflicts.
- 14 Temporary partial conversion from sheep to cattle authorized 1988.
- 15 Land exchange in 1988 reduced preference 50 AUMs.
- 16 Land exchange in 1992 reduced preference 213 AUMs.
- 17 AUMs reduced by 70% as per Monument RMP. No AIE or management agreement to maintain current level.
- 18 Wintering antelope.
- 19 Allotment is currently unallotted. Cancellation is administrative in nature to remove the allotment from our records.
- 20 Conflict with proposed wildlife isolated tract.
- 21 Conversion of 1,249 AUMs from sheep to cattle in 1989 by agreement maintaining pre-RMP levels.
- 22 Increase of 135 AUMs of sheep use transferred from Wendell Trail.
- 23 No livestock use made in the allotment for more than three years.
- 24 Conversion of 992 sheep AUMs to cattle approved in 1988. AIE completed.
- 25 Implement 37% increase as recommended in the Monument RMP. AIE completed.
- 26 No public land in the allotment; Bureau of Reclamation land.
- 27 Conversion from cattle to sheep authorized in 1989.
- 28 AUMs reduced by 46% as per Monument RMP. No AIE or management agreement to maintain current level.
- 29 Old name in the Monument EIS was South or Southwest Interstate.
- 30 AIE of 1990 recommends season proposed in the Monument RMP. Management agreement of 1990 keeps the season proposed in the Monument RMP.
- 31 Conflict with recreation use and riparian management below the Snake River Rim.
- 32 Only known location of candidate Threatened or Endangered plant species.
- 33 Implement 12% increase as per the Monument RMP. No AIE or management agreement to support change in season.
- 34 AIE completed and Management agreement of 1989 increased preference by 414 AUMs to 4,824 AUMs.
- 35 AUMs reduced by 35% as per Monument RMP. No AIE or management agreement to maintain current level.
- 36 Implement 12% increase as per the Monument RMP.
- 37 Implement 78% reduction as per the Monument RMP. No AIE or management agreement to maintain current level.
- 38 Wintering big game.
- 39 Implement the 9% increase as per the Monument RMP.
- 40 AIE completed and Management agreement in 1990 authorized the AUM increase and change in season.
- 41 Proposed increase of 21% identified in the Monument RMP not recommended in the AIE and agreement of 1990.
- 42 AIE completed and change in season recommended in Management agreement of 1990.
- 43 AUMs reduced by 14% as per Monument RMP. No AIE or management agreement to maintain current level.
- 44 AIE and Management Agreement completed in 1990. Conversion of 12 AUMs of horse to cattle use authorized.
- 45 AIE completed and Management Agreement of 1990 authorize change of season to 11/01 to 04/15.
- 46 Seasonal wildlife issues.
- 47 Implement 88% reduction as per Monument RMP.
- 48 Proposed cancellation due to resource conflicts with water quality, recreation use, and ACEC objectives.
- 49 AUMs reduced from 2,681 to 1,447 AUMs in 1991 as a result of exchange of land with the State of Idaho.
- 50 AIE and management agreement completed in 1990. Pre-Monument RMP level use authorized.
- 51 AIE completed and change in season authorized in management agreement of 1990.
- 52 Fictitious allotment removed from records. AUMs returned to allotment from which they originated.
- 53 Operator permit shows season of use of 05/01 to 05/31. However, no authorization can be found to permit the change from the Shoshone EIS.
- 54 AIE completed and management agreement of 1984, decision of 1986 authorize use at 3,966 AUMs. Acquisition of state land in 1993 increased preference by 84 AUMs to 4,050 AUMs.

- 55 Season shortened to allow for riparian area recovery.
- 56 AIEs completed in 1988 and 1993. Management agreements of 1988 and 1991 authorize the total preference held at 5,885 AUMs. Operators agreed to voluntary non-use of 1,646 AUMs with 4,239 AUMs of active use available for Bray Lake seeding project.
- 57 Season of use returned to that proposed in the Shoshone EIS. No management agreement to maintain change in season.
- 58 Allotment proposed for combination with the Pioneer allotment.
- 59 No authorization for change in season from the Shoshone EIS.
- 60 AIE conducted in 1989.
- 61 The Curtis Lake allotment is not individually identified in the Shoshone EIS. The allotment was proposed for inclusion in the North Shoshone allotment, however, the combination was never done.
- 62 Numbers and seasons authorized by management agreement dated 1990.
- 63 Decision of 1980 reduced preference to the Shoshone EIS level of 4,063.
- 64 Separation of the Long Gulch into its own allotment in 1984 reduced the preference by 235 AUMs to the new level of 3,822.
- 65 Separation of the Pot Hole into its own allotment in 1989 reduced the preference by 295 AUMs to the new level of 3,527.
- 66 AIE completed in 1990 and management agreement of 1991 authorized AUM level of 3,527 and change in the season of use from the Shoshone EIS.
- 67 State land exchange of 1992 increased preference to 3,768 AUMs.
- 68 Reductions from the Shoshone EIS not implemented. Management agreement of 1981 sets preference at 1,884 AUMs.
- 69 Hog Creek formed in 1988 reducing AUMs in Dempsey by 139.
- 70 AIE and management agreement completed in 1988 increased preference to 2,531 because of increases in forage from seedings.
- 71 The Spring Creek allotment in the Shoshone EIS split into East Spring Creek and West Spring Creek in 1980. DM decision of that date gave 43 AUMs to East Spring Creek.
- 72 East Spring Creek is now included in the North Gooding allotment. However, the 43 AUMs are proposed for cancellation to help meet DPC objectives in the North Gooding allotment.
- 73 The West Spring Creek allotment was created by management agreement in 1980 with 57 AUMs of preference.
- 74 Preference voluntarily relinquished by the operator in 1993.
- 75 Management agreement of 1980 established preference of 17 AUMs.
- 76 Decision of 1980 authorizes 7 AUMs with the split season.
- 77 Cancellation proposed to improve water quality and riparian areas.
- 78 Decision of 1980 authorizes 62 AUMs (per Shoshone EIS) and season of use.
- 79 Current operation is for all cattle. However, the permit is for cattle, sheep, and horse use as per the Shoshone EIS, and there is no management agreement for the change to kind or season.
- 80 Return to authorization of cattle, sheep and horses as per the Shoshone EIS and in the absence of any agreement authorizing the change.
- 81 AIE and Management Agreement completed in 1988 authorize season of use and preference of 139 AUMs.
- 82 Management agreement of 1981 reduced preference to 2,955 AUMs.
- 83 AIE and Management agreement completed in 1984 increased preference to 3,969 AUMs. No record of the 1984 AIE can be found.
- 84 State land exchange of 1992 increased preference to 4,038 AUMs.
- 85 AIE and Management agreement completed in 1989 set season of use and preference of 3,969.
- 86 Management agreements of 1982, 1985 and 1988 established a preference of 3,232 and season of use 04/20-05/31 and 10/19-11/30.
- 87 AIE completed in 1988.
- 88 AIE and Management agreement completed in 1990 authorizes preference of 795 and season 05/01 - 07/31.
- 89 AIE and Management agreement completed in 1988 authorizes preference at 5,942 and season of use.
- 90 Decision of 1953 created the Mink allotment from the Indian allotment.
- 91 Allotment not addressed in the Shoshone EIS.

- 92 Decision of 1981 authorized preference of 76 AUMs and season.
- 93 Allotment created by agreement of 1953. Allotment to remain until recreation site is developed.
- 94 Allotment proposed for cancellation because the site has been developed for recreation. This is consistent with management agreement of 1993.
- 95 Preference increased to 3,885 AUMs through acquisition of state land in 1991.
- 96 Management agreement of 1980 authorized preference at 11,450 AUMs.
- 97 Management agreement of 1984 authorized preference at 11,347 AUMs.
- 98 State land exchange of 1991 increased preference to 11,685 AUMs.
- 99 AIE completed in 1986.
- 100 Conversion of fall sheep use to spring cattle use to accommodate permittee operations authorized.
- 101 Season of use returned to that proposed in the Shoshone EIS. No agreement of decision to support change in season.
- 102 AIE and Management agreement completed in 1988 authorized preference of 908 AUMs and season of use.
- 103 Case files back to 1963 show 703 AUMs of preference in the original 101 allotment.
- 104 Management agreement of 1983 moved 205 AUMs from the Pioneer allotment (the west or Burnt Ridge pasture) to the 101 allotment. This increased the preference in the 101 allotment to 908 AUMs.
- 105 Reduction of 117 AUMs below the Snake River Rim to eliminate recreation and riparian conflicts.
- 106 AIE and Management agreements completed in 1980, 1984, 1986 and 1988 authorized preference at 460 AUMs and season of use.
- 107 Management agreement of 1980 authorized preference at 1,310 AUMs.
- 108 Management agreement completed in 1985 increased preference to 1,375 AUMs.
- 109 AIE and Management agreement completed in 1987 increased preference to 1,460 AUMs. This increase was temporary pending results of 1993 AIE.
- 110 Land exchange of 1992 increased preference to 1,500 AUMs.
- 111 Only 37 public land acres in the allotment. (See #7).
- 112 This allotment was called the Struthers allotment in the Shoshone EIS.
- 113 Management agreement of 1981 authorized preference of 228 AUMs.
- 114 AIE and Management agreements completed in 1984, 1986 and 1990 authorized preference at 253 AUMs and season of use. These agreements are supported by an AIE in 1989.
- 115 Shoshone EIS increases not implemented.
- 116 Implement Shoshone EIS increase to 39 AUMs.
- 117 Decision of 1980 reduced the preference to 72 AUMs and established the season of use 04/16-06/13 and on alternating years 10/16-12/15.
- 118 Reduction of 5 AUMs below the Snake River Rim to eliminate recreation and riparian conflicts.
- 119 AIE and Management agreements completed in 1982, 1985 and 1987 authorized a preference of 642 AUMs and the season of use.
- 120 Shoshone EIS proposed combining this allotment into the Indian allotment. However, this combination was never made as per the management agreement of 1981.
- 121 Management agreement of 1981 authorized preference at 449 AUMs.
- 122 AIE and Management agreements completed in 1984, 1986 and 1989 increased preference to 587 AUMs.
- 123 Management agreement of 1983 created the West Pioneer allotment out of the old Pioneer allotment and established preference at 823 AUMs.
- 124 AIE and Management agreement completed in 1988 authorized the preference level of 823 AUMs.
- 125 No reduction to the Sun Valley EIS level.
- 126 Implement the 2,890 reduction as per the Sun Valley EIS.
- 127 Managers decision of 1983 left the preference at 222 AUMs. AIEs completed in 1988.
- 128 Implement 40% reduction as per the Sun Valley EIS.
- 129 Implement 38% reduction as per the Sun Valley EIS.
- 130 Decision of 1983 left the preference at 44 AUMs.
- 131 Implement 36% reduction as per the Sun Valley EIS.
- 132 Implement 23% reduction as per the Sun Valley EIS.

- 133 Decision of 1983 left the preference at 84 AUMs.
- 134 Implement 49% reduction as per the Sun Valley EIS.
- 135 Change in season authorized without adequate NEPA documentation.
- 136 Implement 53% reduction as per the Sun Valley EIS.
- 137 Implement 15% reduction as per the Sun Valley EIS.
- 138 Implement 21% reduction as per the Sun Valley EIS.
- 139 Implement 32% reduction as per the Sun Valley EIS.
- 140 Implement 44% reduction as per the Sun Valley EIS.
- 141 Management agreement of 1989 established preference of 295 AUMs.
- 142 Conflict with Box Canyon ACEC.
- 143 Return season back to that proposed in the Sun Valley EIS.
- 144 Allotment authorized to active preference level only.
- 145 Public acres reduced from State of Idaho land exchange. Proposed active preference level reduced from actual use level proportionally from land exchange reduction.

TABLE A-2  
 Selective Management Categories and Grazing  
 Management Situation by Grazing Allotment  
 Bureau of Land Management  
 Shoshone District, Idaho

Allotment Name	Selective Management Category <sup>1</sup>		Allotment Management Plan		Management Agreement	
	Existing	Proposed	X=Yes	Dated	X=Yes	Dated
Antelope	I	I			X	1988
Barren	C	C				
Base Line	C	C				
Big Wood	C	I				
Black Butte	C	I				
Black Canyon	I	I	X	1975	X	1986
Blue Lakes	C	I				
Briggs Creek	C	I				
Camp I	M	I	X	1974		
Camp II	C	C				
Camp III	M	M				
Canyon	I	I	X	1972	X	1989
Chute	M	M				
Clover Creek	I	I	X	1988	X	1988
Common	C	C				
Compound	C	C				
Cove Creek	M	I				
Cow Creek	C	I				
Curtis Lake	I	I			X	1990
Davis Mountain	I	I	X	1970	X	1991
Deer Creek	M	I				
Dempsey	I	I	X	1974	X	1988
Dinky	C	I				
Ear Creek	C	I				
East Spring Creek	C	I				
Elk Creek	I	I				
Fairfield	C	C				

Allotment Name	Selective Management Category <sup>1</sup>		Allotment Management Plan		Management Agreement	
	Existing	Proposed	X=Yes	Dated	X=Yes	Dated
Finch	C	I				
Flat Top	C	I				
Forty-Acre	C	I				
Forty-Six	C	I				
Fricke	C	I				
Goodtime	I	I			X	1989
Goose Lake	C	I				
Gunnery	M	M			X	1988
Gwin Ranch	C	C				
Hansen	C	I				
Hash Springs	M	I	X	1976		
Hazelton	C	C				
Hog Creek	I	I			X	1988
Hot Springs	C	I				
Hunt	C	C				
Indian	I	I	Draft		X	1989
Interstate	C	I				
Jerome	I	I			X	1990
King Hill	I	I	X	1974	X	1988
Kinzie Butte	I	I	Draft		X	1990
Lagoon	C	I				
Land Lock	M	I				
Lava Pot	C	I				
Long Gulch	C	I				
Macon Flat	I	I	X	1970	X	1988
Malad	C	I				
McHan Creek	C	I				
Mill Canyon	I	I				
Milner Dam	C	I				
Milner Plot	M	I	X	1974		
Mink	C	I				

Allotment Name	Selective Management Category <sup>1</sup>		Allotment Management Plan		Management Agreement	
	Existing	Proposed	X=Yes	Dated	X=Yes	Dated
Myrtle Point	C	I				
Nasura	C	C				
NE Interstate	C	I				
North Gooding	M	M				
North Milner	M	M	X	1974	X	1989
North Shoshone	I	I	X	1969	X	1986
Northside	C	C				
North Slope	C	C				
Notch Butte	M	I	X	1977		
NW Interstate	C	I				
One-O-One	I	I	X	1970	X	1988
Philips Creek	C	I				
Piney	I	I				
Pioneer	I	I	X	1970	X	1988
Pocket	C	C				
Pole Line	M	M	X	1975		
Pothole	I	I			X	1989
Powell Creek	C	I				
Quail	C	C				
Quaker	C	I				
Rattlesnake	I	I	X	1968	X	1987
Rift	C	I				
River	M	M				
Roanhide	C	I				
Rock Flat	C	I				
Rough Creek	C	I				
Sand Butte	I	I			X	1990
Sand Springs	C	I				
Schooler Creek	C	I				
Seven Mile	I	I			X	1990
Sheep Point	C	I				

Allotment Name	Selective Management Category <sup>1</sup>		Allotment Management Plan		Management Agreement	
	Existing	Proposed	X=Yes	Dated	X=Yes	Dated
Short Line	C	C				
Soldier	C	I				
South Gooding	C	C				
South Milner	I	I	X	1975	X	1990
Spillway	I	I			X	1990
Springdale	C	C				
The Pasture	C	C				
Three-Mile	C	C				
Ticeska	I	I	X	1971	X	1987
Tunupa	I	I	X	1970	X	1990
Tuttle	C	I				
Vineyard	C	I				
Wendell Cattle	I	I	X	1968	X	1990
Wendell Trail	C	I				
West Bliss	I	I	Draft		X	1989
West Pioneer	I	I			X	1989
West Spring Creek	C	I				
Willow Creek	C	I				
All Allotments	Various		21 <sup>2</sup>	Various	30	Various

Source: Bennett Hills Grazing Authorization and Billing System and Shoshone District Geographic Information System

1/ Selective management categories are as follows:

M = Maintain, I = Improve, C = Custodial

2/ Three draft Allotment Management Plans are not included in the total.

**TABLE A-3**  
 Established Rangeland Monitoring Studies  
 For Each Existing Grazing Allotment  
 Bureau of Land Management  
 Shoshone District, Idaho

Allotment Name	Actual Grazing Use	Forage Utilization	Range Trend	Weather Data	Field Observations	Analysis Interpretation Evaluation of Data
Antelope	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	X <sup>1</sup>	Y <sup>2</sup>
Barren	X			X	X	
Base Line				X	X	
Big Wood	X			X	X	
Black Butte	X	X		X	X	
Black Canyon	X	X	X	X	X	Y
Blue Lakes	X	X		X	X	
Briggs Creek	X			X	X	
Camp I	X	X	X	X	X	
Camp II	X			X	X	
Camp III	X			X	X	
Canyon	X	X	X	X	X	Y
Chute	X			X	X	
Clover Creek	X	X	X	X	X	Y
Common	X			X	X	
Compound	X			X	X	
Cove Creek	X	X	X	X	X	
Cow Creek				X	X	
Curtis Lake	X	X	X	X	X	Y
Davis Mountain	X	X	X	X	X	Y
Deer Creek				X	X	Y
Dempsey	X	X	X	X	X	Y
Dinky	X			X	X	
Ear Creek				X	X	
East Spring Creek	X		X	X	X	
Elk Creek	X	X		X	X	Y
Fairfield		X		X	X	
Finch						

Allotment Name	Actual Grazing Use	Forage Utilization	Range Trend	Weather Data	Field Observations	Analysis Interpretation Evaluation of Data
Flat Top	X			X	X	
Forty-Acre	X			X	X	
Forty-Six	X	X		X	X	
Fricke	X	X		X	X	
Goodtime	X	X	X	X	X	Y
Goose Lake	X			X	X	
Gunnery	X	X	X	X	X	Y
Gwin Ranch	X	X		X	X	
Hansen	X			X	X	
Hash Springs	X	X	X	X	X	
Hazelton	X			X	X	
Hog Creek	X	X	X	X	X	Y
Hot Springs				X	X	
Hunt	X		X	X	X	
Indian	X	X	X	X	X	Y
Interstate	X			X	X	
Jerome	X	X	X	X	X	Y
King Hill	X	X	X	X	X	Y
Kinzie Butte	X	X	X	X	X	Y
Lagoon	X			X	X	
Land Lock	X			X	X	
Lava Pot	X			X	X	
Long Gulch	X			X	X	
Macon Flat	X	X	X	X	X	Y
Malad	X			X	X	
McHan Creek				X	X	
Mill Canyon	X	X		X	X	Y
Milner Dam	X			X	X	
Milner Plot	X	X	X	X	X	
Mink	X			X	X	
Myrtle Point						
Nasura	X			X	X	

Allotment Name	Actual Grazing Use	Forage Utilization	Range Trend	Weather Data	Field Observations	Analysis Interpretation Evaluation of Data
NE Interstate	X			X	X	
North Gooding	X	X	X	X	X	
North Milner	X	X	X	X	X	Y
North Shoshone	X	X	X	X	X	Y
Northside	X			X	X	
North Slope	X			X	X	
Notch Butte	X	X	X	X	X	
NW Interstate						
One-O-One	X	X	X	X	X	Y
Philips Creek				X	X	
Piney	X	X		X	X	Y
Pioneer	X	X	X	X	X	Y
Pocket	X			X	X	
Pole Line	X	X	X	X	X	
Pothole						
Powell Creek				X	X	
Quail	X			X	X	
Quaker	X			X	X	
Rattlesnake	X	X	X	X	X	Y
Rift	X			X	X	
River	X			X	X	
Roanhide				X	X	
Rock Flat	X			X	X	
Rough Creek				X	X	
Sand Butte	X	X	X	X	X	Y
Sand Springs	X			X	X	
Schooler Creek	X	X		X	X	
Seven Mile	X	X	X	X	X	Y
Sheep Point				X	X	
Short Line	X			X	X	
Soldier				X	X	
South Gooding	X			X	X	

Allotment Name	Actual Grazing Use	Forage Utilization	Range Trend	Weather Data	Field Observations	Analysis Interpretation Evaluation of Data
South Milner	X	X	X	X	X	Y
Spillway	X	X	X	X	X	Y
Springdale	X		X	X	X	
The Pasture	X	X			X	
Three-Mile				X	X	
Ticeska	X	X	X	X	X	Y
Tunupa	X	X	X	X	X	Y
Tuttle	X			X	X	
Vineyard	X			X	X	
Wendell Cattle	X	X	X	X	X	Y
Wendell Trail						
West Bliss	X	X	X	X	X	Y
West Pioneer	X	X	X	X	X	Y
West Spring Creek	X	X	X	X	X	
Willow Creek				X	X	
All Allotments	90	50	41	104	105	33

Source: Bennett Hills Grazing Authorization and Billing System and Shoshone District Geographic Information System

- 1/ An "X" in the column indicates the study has been established and data is being gathered.
- 2/ A "Y" in the column indicates that analysis, interpretation, and evaluation of monitoring data has been completed.

**TABLE A-4**  
**Actual Livestock Grazing Use in Animal Unit Months**  
**From 1984 through 1992 By Grazing Allotment**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Allotment Name	1984 Actual Use (AUM)	1985 Actual Use (AUM)	1986 Actual Use (AUM)	1987 Actual Use (AUM)	1988 Actual Use (AUM)	1989 Actual Use (AUM)	1990 Actual Use (AUM)	1991 Actual Use (AUM)	1992 Actual Use (AUM)	Nine-Year Average Actual Use (AUM)
Antelope <sup>1</sup>	660	853	705	565	1138	1813	2617	2040	1977	1374
Barren	6	0	36	36	29	0	0	0	4	16
Base Line	29	135	107	130	145	106	110	140	140	116
Big Wood	12	12	12	12	11	11	11	0	0	9
Black Butte	NA	NA	NA	0	0	0	0	0	0	0
Black Canyon <sup>1</sup>	3675	3115	4846	2971	3075	3385	3520	2933	2008	3281
Blue Lakes	20	46	77	20	36	0	20	22	12	28
Briggs Creek	11	11	NA	4	15	11	11	11	11	11
Camp I	1537	1922	2689	2099	1868	2499	2439	2264	1680	2111
Camp II	68	68	68	68	68	68	68	68	68	68
Camp III	31	NA	38	0	38	39	48	46	39	35
Canyon	228	3100	1749	1989	2618	3070	2157	2039	1037	1999
Chute	68	68	68	68	0	68	68	69	69	61
Clover Creek	4243	2860	4708	2982	2654	2827	2775	2150	2070	3030

Allotment Name	1984 Actual Use (AUM)	1985 Actual Use (AUM)	1986 Actual Use (AUM)	1987 Actual Use (AUM)	1988 Actual Use (AUM)	1989 Actual Use (AUM)	1990 Actual Use (AUM)	1991 Actual Use (AUM)	1992 Actual Use (AUM)	Nine-Year Average Actual Use (AUM)
Common 1	NA	89	102	97	302	253	325	331	62	195
Compound	74	60	56	60	61	60	0	0	0	48
Cove Creek	52	12	56	56	29	25	21	0	22	30
Cow Creek	134	134	134	134	134	135	135	135	135	134
Curtis Lake	137	285	285	0	0	163	106	0	0	108
Davis Mountain <sup>1</sup>	3139	3098	3333	3611	3554	3049	2599	3040	2573	3111
Deer Creek	278	240	295	318	278	278	107	325	325	272
Dempsey	1271	990	1217	1027	1194	1073	1199	773	966	1079
Dinky	NA	NA	0	0	0	0	0	0	0	0
Ear Creek	388	NA	456	475	453	453	469	438	387	440
East Spring Creek	NA	6	26	20	21	0	0	0	0	9
Elk Creek	169	169	169	169	169	169	169	169	169	169
Fairfield	98	98	98	98	103	98	98	98	98	99
Finch	5	5	NA	0	1	6	6	0	6	4
Flat Top	NA	NA	0	0	0	0	0	0	0	0
Fourty-Acre	14	14	14	14	14	14	14	13	14	14
Forty-Six	NA	NA	0	0	0	0	0	0	0	0
Fricke	8	8	8	8	8	8	4	4	8	8

Allotment Name	1984 Actual Use (AUM)	1985 Actual Use (AUM)	1986 Actual Use (AUM)	1987 Actual Use (AUM)	1988 Actual Use (AUM)	1989 Actual Use (AUM)	1990 Actual Use (AUM)	1991 Actual Use (AUM)	1992 Actual Use (AUM)	Nine-Year Average Actual Use (AUM)
Goodtime	2981	1880	2728	1867	2165	2932	2352	2388	1662	2328
Goose Lake	0	0	0	0	0	0	0	0	0	0
Gunnery	728	686	926	805	815	968	991	1091	1095	901
Gwin Ranch	63	0	NA	62	64	63	0	0	0	32
Hansen	8	8	8	8	8	8	8	8	8	8
Hash Springs	432	289	335	318	345	0	300	400	421	316
Hazelton	50	50	50	0	0	4	33	38	10	26
Hog Creek	138	140	135	138	139	140	139	140	0	123
Hot Springs	NA	NA	NA	85	81	0	0	112	30	51
Hunt	31	169	215	168	195	220	258	287	220	196
Indian <sup>1</sup>	2663	1272	2480	1429	2205	2476	2789	2562	1467	2149
Interstate	60	201	232	187	78	381	256	354	179	214
Jerome	90	90	90	63	90	92	92	0	0	67
King Hill	1915	3352	0	602	1276	2523	1738	3283	893	1731
Kinzie Butte	NA	NA	1165	1140	1150	796	796	0	0	835
Lagoon	NA	0	0	0	0	0	0	0	61	8
Land Lock	NA	NA	NA	NA	0	0	0	0	0	0
Lava Pot	0	0	0	0	0	0	0	0	0	0

Allotment Name	1984 Actual Use (AUM)	1985 Actual Use (AUM)	1986 Actual Use (AUM)	1987 Actual Use (AUM)	1988 Actual Use (AUM)	1989 Actual Use (AUM)	1990 Actual Use (AUM)	1991 Actual Use (AUM)	1992 Actual Use (AUM)	Nine-Year Average Actual Use (AUM)
Long Gulch	113	225	166	114	236	224	159	237	237	190
Macon Flat	3751	1670	4443	4084	5118	4934	5427	4385	2032	3983
Malad	NA	NA	NA	NA	0	0	0	0	0	0
McHan Creek	0	0	0	63	63	63	63	0	0	28
Mill Canyon	NA	NA	0	0	0	0	0	0	0	0
Milner Dam	63	63	63	63	63	63	63	63	63	63
Milner Plot	933	541	638	896	743	787	766	1013	309	736
Mink	NA	NA	NA	0	0	0	45	0	0	8
Myrtle Point	0	0	0	0	0	0	0	0	0	0
Nasura	NA	NA	NA	72	49	72	0	0	0	32
NE Interstate <sup>2</sup>	SEE INTERSTATE ALLOTMENT - ACTUAL USE COMBINED WITH THE INTERSTATE ALLOTMENT									
North Gooding <sup>1</sup>	1664	1430	1892	1418	1431	1326	2270	1303	1213	1550
North Milner	4693	4770	4983	4662	4887	6163	5222	5227	3109	4857
North Shoshone <sup>1</sup>	4675	4289	5343	1519	7316	8753	5475	2165	516	4450
Northside	NA	NA	NA	210	140	214	214	171	0	158
North Slope	NA	NA	NA	0	94	0	0	0	0	16
Notch Butte	2044	1843	1830	1691	1593	2131	2039	1667	1701	1838
NW Interstate	0	0	0	0	0	0	0	0	0	0

Allotment Name	1984 Actual Use (AUM)	1985 Actual Use (AUM)	1986 Actual Use (AUM)	1987 Actual Use (AUM)	1988 Actual Use (AUM)	1989 Actual Use (AUM)	1990 Actual Use (AUM)	1991 Actual Use (AUM)	1992 Actual Use (AUM)	Nine-Year Average Actual Use (AUM)
One-O-One	838	645	940	867	639	1061	631	903	569	788
Phillips Creek	10	10	10	10	27	26	26	26	26	19
Piney	NA	NA	0	0	0	0	0	0	0	0
Pioneer	792	622	655	477	527	487	482	471	327	538
Pocket	357	390	420	428	356	390	397	334	281	373
Pole Line	396	303	463	473	280	293	439	439	449	393
Pothole							364	0	167	177
Powell Creek	36	36	36	36	36	36	36	36	36	36
Quail	19	19	19	19	19	19	19	19	0	17
Quaker	20	20	0	0	30	30	30	30	25	21
Rattlesnake <sup>1</sup>	1028	1379	1173	674	837	1345	1165	1036	943	1064
Rift	60	60	60	60	0	60	0	60	60	47
River	81	0	0	57	79	0	0	87	72	42
Roanhide	0	NA	NA	0	NA	0	0	0	60	12
Rock Flat	0	0	0	0	0	0	0	0	0	0
Rough Creek	460	238	460	460	460	645	463	134	416	415
Sand Butte	994	58	1341	737	1334	1224	1108	849	1069	968
Sand Springs	12	12	12	12	12	12	12	12	12	12

Allotment Name	1984 Actual Use (AUM)	1985 Actual Use (AUM)	1986 Actual Use (AUM)	1987 Actual Use (AUM)	1988 Actual Use (AUM)	1989 Actual Use (AUM)	1990 Actual Use (AUM)	1991 Actual Use (AUM)	1992 Actual Use (AUM)	Nine-Year Average Actual Use (AUM)
Schooler Creek	20	7	NA	0	20	0	0	0	21	9
Seven Mile	256	258	349	206	312	332	338	338	340	303
Sheep Point	0	NA	75	91	90	92	94	0	94	67
Short Line	59	59	58	0	59	58	0	49	44	43
Soldier	0	81	29	0	15	0	0	60	0	21
South Gooding	NA	NA	NA	44	44	44	44	44	44	44
South Milner	1617	1696	1614	1396	1406	1765	1664	1534	1237	1548
Spillway	NA	NA	237	256	0	256	253	70	143	174
Springdale	31	31	31	31	31	31	31	31	31	31
The Pasture	92	86	64	64	64	0	8	0	31	45
Three-Mile	14	NA	NA	13	19	19	0	19	19	15
Ticeska	899	705	773	574	764	726	411	892	630	708
Tunupa	NA	NA	NA	NA	NA	NA	897	510	316	574
Tuttle	NA	NA	NA	46	46	46	46	46	46	46
Vineyard	0	77	NA	0	0	0	0	0	0	10
Wendell Cattle <sup>1</sup>	2153	1639	2493	1589	2306	1852	2074	1791	721	1846
Wendell Trail	0	0	0	0	0	0	0	0	52	6
West Bliss	643	465	82	176	444	871	329	467	428	434

Allotment Name	1984 Actual Use (AUM)	1985 Actual Use (AUM)	1986 Actual Use (AUM)	1987 Actual Use (AUM)	1988 Actual Use (AUM)	1989 Actual Use (AUM)	1990 Actual Use (AUM)	1991 Actual Use (AUM)	1992 Actual Use (AUM)	Nine-Year Average Actual Use (AUM)
West Pioneer	838	632	887	911	491	839	520	787	140	672
West Spring Creek	NA	0	24	0	0	0	0	0	0	3
Willow Creek	NA	NA	NA	53	108	0	33	6	6	34
All Allotments	55,205	49,894	61,379	48,455	59,214	67,574	62,569	55,878	37,961	56,302 <sup>3</sup>

Source: Bennett Hills Resource Area Actual Grazing Use Studies in allotment files and/or Allotment Study Files

1/ Nine grazing allotments were affected by a large scale land exchange between the State of Idaho and the BLM. The exchange, finalized January 14, 1992, modified grazing use in the following allotments:

Antelope: before the exchange 1608 AUMs were permitted; following the exchange 1372 AUMs were permitted.

Black Canyon: before the exchange 3967 AUMs were permitted; following the exchange 4050 AUMs were permitted.

Common: before the exchange 518 AUMs were permitted; following the exchange 305 AUMs were permitted.

Davis Mountain: before the exchange 3527 AUMs were permitted; following the exchange 3768 AUMs were permitted.

Indian: before the exchange 3969 AUMs were permitted; following the exchange 4038 AUMs were permitted.

North Gooding: before the exchange 3751 AUMs were permitted; following the exchange 3865 AUMs were permitted.

North Shoshone: before the exchange 11,397 AUMs were permitted; following the exchange 11,685 AUMs were permitted.

Rattlesnake: before the exchange 1460 AUMs were permitted; following the exchange 1500 AUMs were permitted.

Wendell Cattle: before the exchange 2681 AUMs were permitted; following the exchange 1447 AUMs were permitted.

2/ One grazing allotment was affected by a Recreation and Public Purposes Act lease:

NE Interstate: before the exchange 74 AUMs were permitted; following the lease to the Jerome Historical Society 24 AUMs were permitted.

3/ The overall nine-year average actual use of 56,302 AUMs is more than the 54,751 AUMs nine-year average shown in Chapter 2, action [12.00]. Several grazing allotments shown in Table A-1 would be terminated by permit cancellation. The actual grazing use made on those allotments is included in this table but is not included in either Table A-1 or Chapter 2, action [12.00], because they represent the future proposed stocking level after the permits for certain allotments have been terminated.

**TABLE A-5**  
**Observations and Recommendations Regarding Successful and  
 Unsuccessful Livestock Grazing Systems or Management Strategies  
 as Related to Riparian Ecosystems in Eastern Oregon,  
 Southern Idaho, Northern Nevada, and Southwestern Montana**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Reporting Authority	Strategy, Technique, System or Recommendation Shown to be Successful in Improving and Maintaining Aquatic/Riparian Habitat	Strategy, Technique, System or Recommendation Shown to be Unsuccessful in Improving and Maintaining Aquatic/Riparian Habitat
Platts, 1981	<p><b>Set Stream-Riparian Goals</b></p> <ul style="list-style-type: none"> <li>● Sufficient streamside vegetative canopy should be maintained to prevent unacceptable water temperatures.</li> </ul> <p><u>Editors Note:</u> Refer to Tables 3.4 and 3.7 which show designated Beneficial Uses for Salmonid Spawning (trout spawning) and Cold Water Biota (other water-confined organisms besides fish). Also see Table 3.6 which shows water temperatures required by the State Water Quality Standards (1990).</p> <ul style="list-style-type: none"> <li>● Stream banks should be well vegetated to hold soil in place and to keep trampling damage by livestock to a minimum.</li> <li>● Overhanging streamside vegetation within two feet of the stream surface should be maintained to provide needed cover for fish and other aquatic organisms. Also see Kovalchik and Elmore (1991) in this table.</li> </ul> <p><b>Recommended Practices for Protecting, Restoring, or Improving Fish and Riparian Habitats</b></p> <ul style="list-style-type: none"> <li>● Allow complete rest from livestock grazing to degraded riparian areas for as long as required to meet the above goals.</li> <li>● When possible, defer grazing on streamside areas, with herbaceous vegetation only, to late fall.</li> <li>● Recognize specific needs of the different ecological units in ranges or pastures. For example, hillsides differ greatly from riparian areas in grazing suitability and potential for grazing damage. Managing these two habitats as a single unit is unrealistic.</li> <li>● Improve off-stream distribution of livestock in areas bordering riparian zones.</li> </ul>	

Reporting Authority	Strategy, Technique, System or Recommendation Shown to be Successful in Improving and Maintaining Aquatic/Riparian Habitat	Strategy, Technique, System or Recommendation Shown to be Unsuccessful in Improving and Maintaining Aquatic/Riparian Habitat
Bedell, 1984	<ul style="list-style-type: none"> <li>● Allocate vegetative cover in the streamside zone for water quality and for fish and other aquatic organisms at the same time forage is allocated for livestock grazing.</li> </ul> <p><u>Editors Note:</u> Refer to Table 3.6 for water quality standards for three of the seven Beneficial Uses of water designated in Idaho.</p> <p><b>Develop clear objectives, and assess all pertinent factors. Ask:</b></p> <ul style="list-style-type: none"> <li>● How badly damaged is the situation?</li> <li>● How rapidly is restoration desired?</li> <li>● If grazing by livestock is to be excluded, at what point can such exclusion be used in riparian habitat manipulation?</li> <li>● What are the critical values for other public land resources like recreation, fisheries, or wildlife habitat.</li> </ul> <p><u>Editors Note:</u> All waters in the state of Idaho are subject to the State Water Quality Standards (1990) shown in Tables 3.5 and 3.6. Also see Tables 3.4 and 3.7 for designated Beneficial Uses of certain waters.</p> <p><b>Develop a prescription to reach the objectives. Consider one or a combination of these actions:</b></p> <ul style="list-style-type: none"> <li>● Do nothing.</li> <li>● Improve livestock distribution for greater grazing use of the uplands while reducing use on riparian zones.</li> <li>● Change the period of grazing use. Also see Myers (1989) in this table for more information about the period and length of grazing use.</li> <li>● Implement a specialized grazing system to restore riparian zones and improve upland distribution. Also see Kovalchik and Elmore (1991) in this table for grazing systems that are successful in riparian areas.</li> <li>● Rest the entire grazing unit for five years, or until target levels of recovery in riparian zones have been achieved.</li> <li>● Fence meadow floodplain or streamside corridor to control the entire riparian zone environment and habitats.</li> </ul>	

Reporting Authority	Strategy, Technique, System or Recommendation Shown to be Successful in Improving and Maintaining Aquatic/Riparian Habitat	Strategy, Technique, System or Recommendation Shown to be Unsuccessful in Improving and Maintaining Aquatic/Riparian Habitat
Marlow, et al., 1989	<ul style="list-style-type: none"> <li>● Re-vegetate with woody cover, in combination with resting the area by excluding livestock, either administratively or by fencing.</li> <li>● Eliminate grazing.</li> </ul> <p><b>Determine the stream-riparian resource-sensitive level of stocking and management.</b></p> <p>Successful rehabilitation or protection of riparian plant communities on livestock grazing allotments is unlikely without first placing the allotment under a "resource sensitive level of stocking and management intensity." Resource sensitive stocking intensity may be interpreted as either a reduction in livestock numbers, or a reduction in the amount of time the same numbers are allowed to graze the area. Resource sensitive stocking rates and management requires that livestock grazing behavior be sufficiently modified to limit negative impacts to the riparian community.</p> <ul style="list-style-type: none"> <li>● Schedule grazing of riparian areas for periods of low streamflow and stream bank moisture conditions to limit bank degradation.</li> </ul> <p><u>Editors Note:</u> This recommendation will be successful for areas having herbaceous riparian vegetation. Willow areas need special consideration for late-season growing. Also see Kovalchik and Elmore (1991) in this table.</p> <ul style="list-style-type: none"> <li>● Improvement can be attained by basing the stocking rate on the forage availability and utilization of the riparian area rather than holding livestock in the pasture long enough to obtain a pre-determined level of grazing use on upland forage plants.</li> <li>● Shortening the grazing period can lead to improvements in the riparian zone condition without creating controversy over the elimination of grazing.</li> <li>● If there are concerns about reductions in the grazing season because stocking rates are based only on utilization of the riparian forage base there are at least two management options: <ul style="list-style-type: none"> <li>The riparian zone can be fenced into a special use pasture and grazed according to bank moisture conditions and forage utilization, or</li> <li>The pasture or allotment could be sub-divided into smaller subunits and grazed under time-control management.</li> </ul> </li> </ul>	<p>A reduction in livestock numbers <u>alone</u> does not eliminate the problem, it only restricts impact to smaller areas within the allotment pastures. Those areas still impacted will limit the likelihood of riparian improvement. Cuts in animal numbers <u>alone</u> do not mean an automatic modification in animal grazing behavior.</p> <p>During periods of high stream bank moisture content, cattle use can deform banks, making them more susceptible to erosion during high flow events or causing channels to become more flat and wide. Both conditions can upset the dynamic equilibrium of the riparian zone leading to changes in water quality and fisheries habitat.</p> <ul style="list-style-type: none"> <li>● The longer cattle have access to a particular stream stretch, the more likely the occurrence of accelerated channel alteration.</li> </ul>

Reporting Authority	Strategy, Technique, System or Recommendation Shown to be Successful in Improving and Maintaining Aquatic/Riparian Habitat	Strategy, Technique, System or Recommendation Shown to be Unsuccessful in Improving and Maintaining Aquatic/Riparian Habitat
Myers, 1989	<p><b>Observations and recommendations based on assessment of 34 management systems over a period of several years.</b></p> <p>Provide residual vegetation cover through regrowth or rest treatments during at least 75 percent of the years, or annually if possible. Vigorous wood growth plus at least six-inch stubble height of residual herbaceous growth are needed to counter the effects of the next runoff events.</p> <p>Determine, on a site-specific basis how much time is required to provide adequate herbaceous regrowth to meet floodplain function needs and incorporate this into the grazing prescription. Until this is well known, be conservative.</p> <p>Reduce the duration of grazing treatments to the greatest extent possible. In that regard,</p> <ul style="list-style-type: none"> <li>● Grazing average 28 days in successful systems.</li> </ul> <p>Establish suitable length of grazing treatments by closely monitoring these livestock grazing effects:</p> <ul style="list-style-type: none"> <li>● Trampling impacts,</li> <li>● Utilization of mature woody vegetation,</li> <li>● Utilization of woody regeneration.</li> </ul> <p>Provide sufficient growing season time for regrowth of defoliated herbaceous plants.</p> <p>Design grazing treatments to take advantage of favorable seasonal livestock dispersal behavior.</p> <ul style="list-style-type: none"> <li>● There is good cattle dispersal during the cool season (May-June).</li> <li>● "Hot season" grazing averaged 13 days.</li> </ul> <p>When woody plant species are important in the vegetation composition, limit fall grazing treatments to only one year in four. Also see Kovalchik and Elmore (1991) in this table.</p>	<p>Some stream systems may be too frail or unstable to warrant grazing use either temporarily or permanently. Any grazing strategy would be unsuccessful.</p> <ul style="list-style-type: none"> <li>● Grazing averaged 59 days in unsuccessful systems.</li> <li>● Many rest-rotation and deferred rotation grazing systems prescribe 60-75 days of use per treatment and are generally unsuitable.</li> </ul> <ul style="list-style-type: none"> <li>● There is poor cattle dispersal during the "hot season" (July-mid September).</li> <li>● "Hot season" grazing averaged 33 days.</li> </ul>

Reporting Authority	Strategy, Technique, System or Recommendation Shown to be Successful in Improving and Maintaining Aquatic/Riparian Habitat	Strategy, Technique, System or Recommendation Shown to be Unsuccessful in Improving and Maintaining Aquatic/Riparian Habitat
Platts, 1989	<p>Duration of fall treatments should be limited to the greatest extent practical to prevent over-utilization of riparian woody plants.</p> <ul style="list-style-type: none"> <li>● Fall grazing averaged 21 days.</li> </ul> <p>Close monitoring is required to avoid excessive use on woody species during this period.</p> <p>Insist upon strict grazing system compliance.</p> <p>Riparian areas differ in their potential for response and various unique site factors. All applicable factors must be considered in the grazing system design. Also see Bedell (1984) in this table.</p> <p><b>The most promising grazing strategies are those that include one or more of the following options:</b></p> <ul style="list-style-type: none"> <li>● Include a riparian pasture(s) within the grazing allotment to allow the stream-riparian ecosystem to be managed separately from the uplands.</li> <li>● Fencing streamside corridors is a last resort, but it may allow those grazing strategies that are working well in the uplands, but not in the riparian zone, to be compatible over the watershed as a whole.</li> <li>● Change the kind of livestock from cattle to sheep on certain ranges for better grazing compatibility with the rangeland, including the stream-riparian ecosystems.</li> <li>● Add more rest to the grazing cycle for stream-riparian habitats.</li> </ul>	<p>● Fall grazing averaged 37 days.</p> <p>A few cattle remaining in a pasture after the prescribed use period can negate the benefits of the grazing system. Stray animals invariably spend the bulk of their time in stream bottoms. Ninety percent compliance with the grazing system is <u>not</u> adequate.</p> <p>Standardized approaches to riparian grazing management are not practical.</p> <ul style="list-style-type: none"> <li>● Because cattle are usually drawn to moist sites, their behavior will often override the grazing strategy if pasture size is too large for animal control. Also, no grazing strategy is going to work for stream fishery needs if there is not a set amount of vegetation left at the end of the growing season to buffer future ice and flood flows. Also see Kovalchik and Elmore (1991) and Myers (1989) in this table for required stubble height.</li> </ul> <p><b>Editors Note:</b> Changing from sheep to cattle over the last 40 years in allotments with riparian areas attractive to cattle has contributed to riparian problems in the planning area.</p> <ul style="list-style-type: none"> <li>● The benefit from rest in one pasture may be nullified by the extra use that occurs on the remaining grazed pastures. Also see Kovalchik and Elmore (1991) in this table. Their studies support this statement when use of the herbaceous riparian forage is heavy.</li> </ul>

Reporting Authority	Strategy, Technique, System or Recommendation Shown to be Successful in Improving and Maintaining Aquatic/Riparian Habitat	Strategy, Technique, System or Recommendation Shown to be Unsuccessful in Improving and Maintaining Aquatic/Riparian Habitat
Kovalchik and Elmore, 1991	<ul style="list-style-type: none"> <li>● Reduce the <u>intensity</u> of use on streamside forage and control the <u>timing</u> of forage use so grazing occurs during periods most compatible with stream-riparian ecosystems.</li> <li>● Manage grazing as specified and required in properly prepared allotment management plans or other proven management guides, giving full consideration to riparian management objectives. Also see Bedell (1984) in this table.</li> </ul> <p>To restore herbaceous forage and willow stand production in riparian zones, grazing systems must be ecosystem oriented, not just upland oriented.</p>	<p>Properly manage allotments, rangeland, or pastures, as required under the guidance plans. If grazed land cannot be managed properly, as plans require, then no grazing strategy is going to work.</p>
	<p>Riparian habitats require site-specific management. Several stream reaches, each with a different mosaic of plant associations and communities, may occur in a single grazing allotment. These communities have different tolerances to grazing. Grazing systems that are compatible with one community may harm another. To maintain diversity of plant associations along each stream reach, grazing systems must be carefully designed for the plant communities that are desired.</p>	<p>Most traditional grazing systems were developed for upland grasses and not for riparian plant species. Those systems encourage concentrated livestock use in riparian zones during mid- to late-summer periods and have resulted in minimal improvement in riparian conditions.</p>
	<p><b>Compatibility of Grazing Systems with Willow-Dominated Plant Communities</b></p> <p>Sufficient herbaceous forage stubble height acts to prevent excess willow browsing, to provide for regrowth of riparian forage plants after use, and to leave sufficient vegetation for stream bank protection.</p>	
	<p><b>Highly-Willow Community-Compatible Grazing Systems</b></p>	<p>Unless grazing systems allow for sufficient riparian forage height growth during the mid- to late-summer period, they will fail to maintain willow-dominated plant associations. <u>The switch from grazing to browsing is the single most important factor in the decline of willow-dominated plant communities to less stable communities.</u></p>

Reporting Authority	Strategy, Technique, System or Recommendation Shown to be Successful in Improving and Maintaining Aquatic/Riparian Habitat	Strategy, Technique, System or Recommendation Shown to be Unsuccessful in Improving and Maintaining Aquatic/Riparian Habitat
	<p><b>Corridor Fencing</b> - Fencing is the easiest way to obtain rapid improvement in riparian conditions by protecting riparian zones from improper cattle use. The BLM had lost only about eight animal unit months per mile of fenced stream in central Oregon, an insignificant loss of available forage from grazing allotments.</p>	
	<p><b>Riparian Pasture</b> - Riparian pastures are small pastures set aside to achieve desired vegetation response. Pastures include enough upland to achieve balanced use between upland and riparian forage.</p>	<p>Large tracts of upland can be used only if managers are willing to write management prescriptions based on riparian considerations alone.</p>
	<p>If managed properly, the system results in better livestock distribution, grazing intensity, and timing. This leads to increased willow and sedge production and reduced effects on stream and stream banks. Willow response is better if the riparian pasture is grazed early or after fall "green up", or regrowth of upland grass following fall rains. Close monitoring of forage use avoids the switch from grazing to browsing.</p>	
	<p><b>Spring (Early Season) Grazing</b> - In the spring, cattle often avoid riparian zones because of cold temperatures, soil wetness, and forage immaturity. Therefore, spring grazing encourages cattle to graze uplands where forage maturity and weather are more favorable compared to the riparian zone. As a result, spring-grazed riparian zones have less than half the cattle occupancy, compared to fall use. Because spring grazing precludes late-summer use, willow browsing is light and seeding survival is high.</p>	
	<p>The response of riparian vegetation is good, even on sites in poor condition. Vigorous willow and sedge regrowth provide excellent stream bank protection, and soil and water relationships remain favorable to continued willow and sedge production.</p>	
	<p><b>Moderately-Willow Community-Compatible Grazing Systems</b></p>	
	<p><b>Two-Pasture Rotation Grazing</b> - This system is only used from spring through early or mid-summer. The system provides late-summer rest and regrowth on both pastures every year. The very early period of use responds similarly to spring grazing systems.</p>	<p>Use on the critical-season pasture, the second use pasture, when the grass flower stalks emerge from the basal growing points, can retard maintenance or recovery of willows if it extends into the hot, mid-summer season and can result in the shift to browsing.</p>

Reporting Authority	Strategy, Technique, System or Recommendation Shown to be Successful in Improving and Maintaining Aquatic/Riparian Habitat	Strategy, Technique, System or Recommendation Shown to be Unsuccessful in Improving and Maintaining Aquatic/Riparian Habitat
	<p>Pastures respond best to this system if cattle are removed from the critical-use pasture before summer drought, allowing lightly used willows and sedges to regrow through the remainder of the growing season. Two-pasture rotation grazing may not improve pastures in poor condition.</p>	
	<p><b>Three-Pasture Rest-Rotation Grazing</b> - This system allows one pasture to be rested an entire season while the other two pastures support the grazing. Sedge communities may respond favorable to this system, as a vegetative mat is left on stream banks in most years.</p>	<p>The system may not improve either willow or sedge production on pastures in poor condition. In theory, willows should respond favorably to this system because of the rest period. In practices, two or three years of willow growth are often removed in the late pasture.</p>
	<p>Less than half of heavily clipped or browsed willow stems survive into the following year. Of the survivors, regrowth was half the growth of ungrazed stems. Therefore, three or more years of rest may be necessary for heavily used willows to recover</p>	
	<p>Adding more rest to the system and removing cattle before 45 percent use of herbaceous forage in the late-season period will better protect willows when using this system.</p>	
	<p><b>Three-Pasture Deferred-Rotation Grazing</b> - This grazing system moves cattle from early to critical-season pastures at a predetermined date or at some level of forage use. The third pasture is used after seeds of upland grasses have ripened, and cattle are removed when desired use of upland grasses is reached. This grazing system seems desirable for sedges because of two years of late-summer rest.</p>	<p>However, overuse by concentrated cattle may cause sedges to decline, especially if stubble height during spring runoff is too short to resist erosion. In theory, this system is beneficial for willows, with late-season grazing occurring in one of three years.</p>
	<p>The system can be improved by willows by adding more rest from grazing and ending mid- and late-season grazing before 45 percent herbaceous forage use.</p>	<p>Unfortunately, difficulty in managing cattle distribution and forage use often results in a shift to browsing on mid- as well as late-summer pastures, resulting in two years of overuse followed by decline in willow cover and vigor. The system as applied in central Oregon often fails to maintain good condition willow stands, which degrade to sedge communities or worse. Nor does it improve sites in poor condition.</p>
	<p><b>Willow Community-Incompatible Grazing Systems</b></p>	

Reporting Authority	Strategy, Technique, System or Recommendation Shown to be Successful in Improving and Maintaining Aquatic/Riparian Habitat	Strategy, Technique, System or Recommendation Shown to be Unsuccessful in Improving and Maintaining Aquatic/Riparian Habitat
	<p><b>Spring-Fall Pastures</b> - Spring-fall pastures are used for a short period in the spring before summer pastures are ready and again in the fall before cattle are moved to winter pasture. Rest occurs during the critical growing season.</p> <p>Spring-fall grazing is acceptable in good-condition riparian zones if early grazing use is ended before the critical growing period, fall use is delayed to forage regrowth on adjacent hillsides, and fall use is ended at 45 percent herbaceous forage use in the riparian zone. Concentrating animals for a short period of time may have the same effect as light grazing and is acceptable for maintaining willow vigor and cover.</p>	<p>This system has not maintained or enhanced willow stands in central Oregon because of the late grazing period. If spring-fall grazing is to be effective, attention must be paid to forage use during late-season period.</p>
	<p><b>Deferred Grazing</b> - This strategy is used when there is a long period of time between the convenience of early season grazing and later maturation of forage plants. For example, sedges may not be convenient for spring grazing because of wet soils, but they continue to regrow and may be used until mid-October or November. If sedge use is ended in September, regrowth can provide substantial cover for stream bank protection provided sufficient moisture remains to support the regrowth.</p>	<p>However, sites in poor condition, without willow or sedges, have not responded well to the deferred grazing system.</p>
	<p><b>Removing cattle before 45 percent herbaceous forage utilization</b> will improve the usefulness of the system for willows only if willow cover and vigor are already good. Other grazing systems should be used on sites in need of recovery.</p>	<p>With deferred grazing, cattle soon concentrate in the riparian zone. As herbaceous riparian forage is overused, cattle shift to browsing. Willow stands are converted to sedge communities or worse.</p>
	<p><b>Late-Season Grazing</b> - Cattle are not turned into the pasture until late summer or early fall after upland forage plants have dried.</p> <p>Late-season use can be made more effective for willow stands by removing cattle at 45 percent herbaceous forage use or delaying grazing until regrowth of upland grasses, at which time cool temperatures in riparian zones help disperse cattle to uplands.</p> <p>The system can be improved for sedge if cattle are removed early enough to allow fall sedge regrowth, thus providing stream bank protection during spring runoff.</p>	<p>As usually practiced, late-season grazing is not much different than season-long or deferred grazing in its effects on willows. Willow stands soon degrade to sedge communities or worse.</p> <p>In theory, the system could be improved by reducing cattle numbers to prevent overuse of herbaceous riparian forage, a difficult way to reduce riparian grazing at a time when cattle prefer riparian vegetation.</p>

Reporting Authority	Strategy, Technique, System or Recommendation Shown to be Successful in Improving and Maintaining Aquatic/Riparian Habitat	Strategy, Technique, System or Recommendation Shown to be Unsuccessful in Improving and Maintaining Aquatic/Riparian Habitat
	<p><b>Season-long Grazing</b> - Livestock are released into an allotment in the early spring and are removed in the fall.</p>	<p>In practice, the system is incompatible with willow and sedge management unless large pastures are grazed solely for riparian objectives and become, in essence, a riparian pasture.</p> <p>Season-long pastures will not support fair or better condition willow stands. Early use of the pasture is often acceptable for the reasons outlined under spring grazing. However, cattle soon congregate in the riparian zone during the hot summer months. Overuse of herbaceous riparian forage occurs by mid-summer and cattle use switches to willows, eventually eliminating the stand. In addition, season-long grazing never gives sedges a chance to replace carbohydrate reserves, and they are soon replaced by increaser plants such as Kentucky bluegrass and unpalatable forbs.</p> <p>Reducing the number of cattle does not counter the negative impacts of the system, it just prolongs the outcome. The system is incompatible with both willow and sedge management.</p>
All Reporting Authorities	Consider these Observations-Recommendations as Helpful Best Management Practices and Incorporate them into Grazing Management Plans	Consider these Observations-Recommendations as Harmful to Stream-Riparian Ecosystems and Avoid Incorporating them into Grazing Management Plans

BLM LIBRARY  
RS 150A BLDG. 50  
DENVER FEDERAL CENTER  
P.O. BOX 25047  
DENVER, CO 80225

# **Appendix B: Reasonably Foreseeable Development Scenarios**

## **Scenario 1: Oil and Gas Exploration and Development Scenario**

Based on the historical record and the low potential for the occurrence of petroleum within the Bennett Hills Resource Area, the reasonably foreseeable oil and gas activity in the area within the 20-year duration of the Resource Management Plan will consist of the issuance of some competitive and over-the-counter leases, a few geophysical surveys, and perhaps the drilling of one or two exploratory holes.

### **Exploration Scenario:**

1. One to two exploration holes will be drilled over the life of the RMP (20 years).
2. Exploratory drilling is most likely to be conducted within the parts of the Resource Area classified as "L/B". This is the highest level of potential for oil and gas in the Bennett Hills Resource Area.
3. The average area needed for each drill pad will be two acres. An additional two acres will be needed for support facilities.
4. The average length of road constructed for each drill hole will be five miles.
5. The roads will have a gravel surface with an average width of 20 feet. The total surface disturbance width will average 40 feet.
6. Each well will be drilled over a period of less than 12 months.

### **Surface Impacts of Exploration:**

1. The total area required for drill pads and support facilities will be eight acres.

2. The total area required for roads will be 50 acres.
3. The total surface disturbance caused by exploratory drilling over the life of the plan will be 58 acres.

### **Field Development and Production Scenario:**

1. Small amounts of oil or gas discovered in the Bennett Hills Resource Area would not be economic to develop. The minimum size that will be economic is a field containing reserves of 365,000 barrels of oil capable of producing an average of 100 barrels of oil per day over a productive life span of 10 years.
2. One field of the minimum size will be discovered within the Bennett Hills Resource Area during the life of the RMP.
3. Total area of the field will be 200 acres and well spacing will be 40 acres. The field will require four development wells in addition to the discovery well. Each production well will create two acres of surface disturbance. This will include all production equipment for the well.
4. Each development well will require  $\frac{1}{4}$  mile of road. Development well access roads will be graveled and will have a surface width of 20 feet. The width of surface disturbance for roads will average 40 feet.
5. All production will be trucked to refineries located outside of Idaho.
6. All well service requirements will be provided by established service companies located outside of Idaho.

### **Surface Impacts of Field Development and Production:**

1. The total surface disturbance for well pads will be eight acres.
2. The total surface disturbance for roads will be five acres.
3. The total surface disturbance caused by development of the field will be 13 acres.

4. The total surface disturbance caused by exploration and development over the life of the plan will be 71 acres.

## Description of Typical Oil and Gas Exploration and Development Activities

Oil and gas exploration and development activities typically progress through five sequential stages: preliminary exploration, exploratory drilling, development, production, and abandonment. Some of these stages may overlap with others depending on the pace of exploration and development. Only the first stage may occur before leasing.

### Preliminary Exploration

Generally, the first step in oil and gas exploration is examination of all available geologic literature, maps, and remote sensing data pertaining to the area. Potential petroleum traps can sometimes be located with the aid of geologic maps, aerial photos, and satellite imagery. In areas where geologic maps are not available, the next step may be geologic mapping of the area. Geologic mapping usually involves one or more geologists examining rock outcrops on the ground. Rock samples may be taken for further study in the laboratory. Geological mapping and exploration can usually be accomplished with very little impact on the environment.

Quite frequently, the subsurface geologic structure cannot be determined from surface evidence alone. Geophysical prospecting techniques are used to detect and define subsurface structure not detectable using surface geologic methods. Three geophysical techniques commonly used in the search for hydrocarbons are gravity surveys, magnetic surveys, and seismic reflection surveys.

Gravity and magnetic surveys use small portable instruments which can be easily transported by light vehicles such as pickup trucks, jeeps or small aircraft. The use of off-road vehicles is common, especially for gravity surveys. Magnetic surveys are usually done from aircraft flying at low to intermediate altitudes. Normally the only impact on

the environment is from the passage of the off-road vehicles over the area. Sometimes small holes, approximately two inches square and one inch deep, are hand dug for instrument placement at the survey points.

Seismic reflection surveys are the most frequently used geophysical method for oil and gas exploration because they produce the most detailed subsurface information. The seismic reflection method requires an energy source and a linear array of detectors called geophones.

The type of energy source used for a seismic reflection survey depends on a number of variables, two of which are the availability of roads and the cultural setting. In populated areas where roads are available, a vibrator source using a truck or buggy mounted hydraulic vibrator may be used as the energy source. To be able to use the vibrator source method, the seismic line must go along a straight road, or if cross country, over driveable terrain. In areas remote from population centers, high explosives may be used to provide the energy source. When explosives are used, they are usually placed at the bottom of holes drilled to a predetermined depth by a truck mounted drill rig. Shot hole depths normally range from 25 to 200 feet. The hole diameter is typically two to six inches. The size of the explosive charge can range from 5 to 50 pounds. Drill cuttings normally are scattered by hand near the shot hole or put back in the hole after the charge has been placed. Proper preplugging of the shot hole with tamped drill cuttings or bentonite chips will prevent the hole from blowing out when the charge is detonated. A properly preplugged shot hole will create the best seismic source and will not cause surface disturbance. In roadless areas, or in situations where it is not feasible to drill shot holes, surface explosives may be used. The surface explosive method may be supported by four-wheel-drive vehicles, pack animals, helicopters or a combination of the above.

The geophones are normally deployed in as straight a line as practical. When existing roads coincide with the desired array direction they are used to deploy the geophones. In areas of rugged terrain or no roads, the geophones may be deployed on foot or by helicopter. In some cases it may be necessary to

deploy the array in a grid pattern. The spacing between the grid lines may be anywhere from a fraction of a mile to many miles depending on the depth and complexity of the structures being studied.

An area may be explored several times by the same or different companies over a period of time for a variety of reasons. Further, exploration of an area does not necessarily mean that the subsurface structures or source rocks necessary for the occurrence of hydrocarbons will be found. The reality of oil and gas exploration is that often preliminary investigations show that an area does not have adequate subsurface structures, therefore, the next stage-exploratory drilling-does not take place.

### Exploratory Drilling

When preliminary exploration indicates that a favorable structure(s) exists in the area, exploratory drilling may be justified. On federal mineral estate, an oil and gas lease must first be obtained before drilling may occur.

Exploratory or wildcat oil and gas wells may range in depth from a few thousand to many thousand feet. The deeper wells may require several months or more to complete; shallower wells up to a few thousand feet deep may be completed in as little as a few weeks. As a general rule, the deeper the test, the larger the drilling rig and facilities required.

Oil well drill rigs are very large and are usually moved in pieces. Moving a dismantled rig involves use of heavy trucking equipment and crews to erect the rig. Gross weight of vehicles may run in excess of 80,000 pounds. In order to move a drill rig and its associated equipment, roads may need to be built. These roads generally will be constructed with bulldozers, graders and other types of heavy equipment. They will have a running surface 18 to 20 feet wide and will be ditched on one or both sides. The total width of surface disturbance caused by road construction will depend on terrain. An average width of about 40 feet should be used in estimating the amount of disturbance. Access roads should follow existing roads or trails when possible; however, it may be necessary to route the road over

land because there are no existing roads or the existing roads and trails are too steep.

Prior to assembling the drill rig, a pad from one to four acres in size is cleared and leveled. On hillside locations, the amount of dirtwork depends on the steepness. A typical platform might require a cut of 20 feet deep into the hillside and a fill 10 feet high on the downslope side. Topsoil is usually removed and stockpiled for reclamation.

In addition to the drill rig, the pad will contain mud pumps, a reserve pit, electric generators, drill pipe, a tool house and other equipment storage facilities. Other facilities such as storage tanks for water and fuel are located on the pad or are positioned nearby on a separate cleared area. If the well site is not large enough for the equipment required to rig-up, a separate staging area may be constructed. Staging areas are usually no larger than 200 feet by 200 feet and may simply be a wide flat spot along the access road on which vehicles and equipment are parked.

Reserve pits for the containment of drilling fluids and cuttings are constructed adjacent to or on the drill pad. The size of the reserve pit will depend on the depth and size of the drill hole, types of subsurface geologic conditions encountered, and the kinds of drilling fluids used. Pits are usually constructed adjacent to the fill and below the drill platform elevation. However, in steep terrain the pit may be constructed against the cut portion of the well pad in order to reduce disturbance and facilitate retention drilling fluids. If there is a potential for groundwater or surface water contamination, the reserve pit is lined with impermeable material.

Well drilling requires a water source. Five thousand to 15,000 gallons of water per day may be needed for mixing drilling mud, cleaning equipment, etc. If a surface water source is nearby, a pipeline may be laid from the source to the drill site. If there is no nearby source, a water well will be dug or the water will be trucked from the nearest available source.

### Development

If an exploratory well becomes a discovery well (a well that finds a new field containing commercial

## Scenario 1

quantities of oil and/or gas), development wells will be drilled to confirm the discovery, establish the extent of the field, and efficiently drain the reservoir. The procedures for drilling development wells are about the same as for exploratory wells, except there is usually less subsurface sampling, testing, and evaluation.

During the development stage, the road system of the area is greatly expanded. Once it is known which wells will produce in paying quantities, a permanent road system can be designed and built. Because it often takes several years to develop a field and determine field boundaries, the permanent road system is usually built in segments. Often, roads built as temporary routes to access exploratory well sites end up as long-term main access and haul roads. Access roads built for development and production wells are better planned, designed and constructed than those built for exploratory wells. Access roads are normally limited to one main route to serve the lease areas, with a maintained side road to each well. Upgrading of temporary roads may include ditching, draining, installing culverts, graveling, crowning, or capping the roadbed. The amount of surface area needed for roads would be similar to that for temporary roads mentioned earlier, and would also be dependent on topography and the loads to be transported over it. Generally, main access roads are 20 to 24 feet wide and side roads are 14 to 18 feet wide. These dimensions are for the driving surface of the road and not the maximum surface disturbance associated with ditches, cuts or fills. The difference in amount of disturbance is a matter of topography. Surface disturbance in excess of 130 feet is not unusual in steep terrain where slopes exceed 30 percent.

In addition to roads, other surface use requirements for development of a field may include flowlines, power lines, storage tank batteries, facilities to separate oil, gas and water, and injection wells for salt water disposal. Some of these facilities are discussed in the section on production.

Prior to development, a well spacing pattern must be established by the state, with approval by the BLM. Well spacing for oil production from federal leases is usually a minimum of 40 acres. Most gas well

spacing for production of federal leases uses units of 160, 320, and 640 acres per well. Spacing for oil and gas wells is based on the characteristics of the producing formation. If a field is producing from more than one formation, the surface location of the well may be much closer than one per 40 acres.

In an oil field developed on a spacing pattern of 40 acres per well, the wells are 1,320 feet apart in both north-south and east-west directions. If a section is developed with 16 wells, at least four miles of access roads are built. In mountainous terrain, the lengths of access roads may be increased since steep slopes, deep canyons, and unstable soil areas must often be circumvented in order to construct stable access to wells.

The amount of surface disturbance required for development of a gas field is similar to that for an oil field even though the well spacing is usually 160 acres. With 160-acre spacing, only four wells are required per section; however, the associated pipeline system often creates surface use requirements similar to those of an oil field.

The amount of surface use for development of an oil and gas field may be reduced by unitization of the leaseholds. In many areas with federal land, an exploratory unit is formed before a wildcat is drilled. The boundary of the unit is based on geologic data. The developers unitize the field by entering into an agreement to develop and generate it as a unit, without regard to separate ownerships. Costs and benefits are allocated according to agreed terms. Unitization reduces the surface-use requirements because all wells are operated as though on a single lease. Duplication of field processing facilities is minimized because development operations are planned and conducted by a single operator, often resulting in fewer wells.

The rate of development well drilling depends on whether the field is operated on an individual lease basis or under a unit agreement, the rate at which the field can be produced, the availability of drilling equipment, protective drilling requirements, and the degree to which limits of the field are known. If the field is to be produced on an individual lease basis, development usually proceeds more rapidly than

under a unit agreement since each lease must have its own well or wells to prevent drainage of petroleum by an adjoining lease. Drilling in an undeveloped part of a lease to prevent drainage of petroleum to an offset well in an adjoining lease is often required in fields of intermingled federal, private or state owned minerals. The terms of federal leases require such drilling if the offset well is on non-federal minerals or on federal minerals leased at a lower royalty rate.

If the field is developed under a unit agreement, all owners within the participating area share in a well's production regardless of whose lease the well is on. Spacing requirements are not applicable to unitized fields. The field is developed on what the operator determines to be the optimal spacing pattern to maximize recovery.

If the discovery well has a high rate of production and substantial reserves, development drilling usually proceeds at a fairly rapid pace. If there is some question whether reserves are sufficient to warrant additional wells, development drilling may occur at a much slower pace. An evaluation period to observe production performance may follow the drilling of successive wells.

Many fields go through several development phases. A field may be considered fully developed and produce for several years, then a well may be drilled to a deeper pay zone. Discovery of a new pay zone in an existing field is a "pool" discovery, as distinguished from a new field discovery. A pool discovery may lead to the drilling of additional wells, often from the same drill pad as existing wells. Existing wells may also be deepened to produce from the new pool.

## Production

Production from an oil field begins just after the discovery well is completed and is usually concurrent with development operations. Temporary facilities may be used at first, but as development proceeds and reservoir limits are determined, permanent facilities are installed. The extent of such facilities is dictated by the number of producing wells, the volume of production, and the volume of gas and water produced with the oil.

Typically, oil is produced in association with water and natural gas. Reservoirs that produce oil, gas and/or water require the siting of facilities for the production, separation, and storage or transportation of the products at the well site. If the well produces naturally, that is the oil and gas flow to the surface under natural pressure, only a series of pipes and valves at the well head are required to regulate the flow of product to the surface. If natural pressure is insufficient, a pump is installed to lift the product to the surface. Once the product comes to the surface, it travels through pipes to separation equipment where water and gases such as carbon dioxide and hydrogen sulfide are removed, and oil and natural gas separated. The oil is piped to storage facilities. The separation and/or storage facilities may either be located away from the well pad for common use by more than one well or they may be located on the same pad as the well from which production occurred.

Produced water is disposed of by discharge into surface drainages, evaporation in pits, or reinjection. Although most produced waters are brackish to highly saline, some are fresh enough for beneficial use. If water is to be discharged, it must meet applicable quality standards. Evaporation pits are the most common method for disposing of produced water. These pits are usually located adjacent to the well site and may be lined with an impermeable material to prevent soil and groundwater contamination. If the water is to be reinjected, a dry or abandoned oil well may be used, or in some cases, a new well drilled specifically for reinjection.

If the well produces enough natural gas to be economic and a natural gas transmission pipeline is located within suitable distance, a network of gathering pipelines collects the gas from each well. The gathering system usually consists of pipe two to four inches in diameter which is laid on the ground or buried several feet below the surface. Surface pipelines will normally disturb an additional area 10 to 12 feet wide when constructed adjacent to existing roads. BLM usually requires that pipelines be laid near the access road or buried under it to prevent additional surface disturbance. The collected gas is piped to the main transmission line and on to market. If there is not enough gas to be economic and/or no

## Scenario 1

gas transmission pipeline is located nearby, the gas will be reinjected into the reservoir.

Produced oil is stored in tanks at the well or in common tanks central to two or more wells. There are normally at least two tanks; so that one tank can be filling as the contents of the other are measured, sold, and transported. The number and size of tanks depends on the rate of production and the extent of automation in gauging the volume and sampling the quality of the tank's contents. The oil is transported from these tanks to a distribution point by truck. In the case of highly productive fields, oil carrying pipelines may be laid from the field to a distribution point or refinery. In these cases, there is a network of pipelines to each well similar to that for the gas gathering system. The oil gathering lines are usually four to six inches in diameter.

Sometimes, hydrogen sulfide, a highly toxic gas, may occur with the hydrocarbons. In these cases, special stainless steel pipe is used to contain the production until the hydrogen sulfide can be separated from the hydrocarbons. The hydrogen sulfide is disposed of by incineration or neutralized by sulfur extraction.

In some fields, natural gas occurs without any associated oil. Usually these "dry gas" fields produce some water and may also contain a small amount of liquid condensate or "drip". Dry gas wells typically have only a "christmas tree" or valve assembly showing above ground. Production facilities may include a separator, a pit or tank for the collection of separated produced water and a small tank for the storage of the liquid condensate. The condensate tanks are typically 10 to 12 feet in diameter and at least 20 feet high. Additional facilities might include a compressor station if the gas does not have sufficient natural pressure to move it to a distribution point. As with oil and gas production, there is a gathering pipeline for distribution.

Oil is under natural pressure in nearly all reservoirs. Oil produced entirely or partially using natural reservoir pressure is referred to as primary production. In the average reservoir, primary production accounts for about 25 percent of the oil. In some fields, various methods are used to maintain or increase the reservoir pressure. These methods,

which generally involve pumping water or gas into the reservoir, are referred to as secondary recovery. Recently, the trend has been to institute secondary recovery processes very early in the development of a field. Surface disturbance from a water flooding recovery system is similar to drilling and development of an oil and gas production well, i.e., a drill pad and access road are constructed and water pipelines built. Surface use is increased substantially since as many as four injection wells may be used for each oil well in the field. There are many different patterns and many other methods of secondary recovery.

## Abandonment

In exploratory drilling, if oil or gas is not discovered in paying quantities, the well is considered dry. In this case, once drilling and testing of the well has been completed, the operator is required to plug the hole in accordance with prescribed federal and state procedures.

After the well is plugged and all equipment is removed, the well site is reclaimed according to the requirements of the surface management agency. The reserve pit must be evaporated or pumped dry and filled with stockpiled soil material. Heavy equipment such as bulldozers and graders may be used to recontour disturbed areas associated with the drill pad and the access road. After the site is recontoured to its natural shape and stockpiled topsoil is spread, it is seeded with a mixture of grasses that will grow in the climate and soil conditions of the area. A fence may be erected to protect the site until revegetation is complete, particularly in livestock grazing areas.

In producing oil and gas fields, the life span of an individual field depends on the unique characteristics of the reservoir, as well as how the field is produced. In addition to the natural reservoir characteristics and the techniques used to produce the oil and/or gas, political, economic, and environmental constraints all affect a field's life span from discovery to abandonment. Some fields may produce for only a few years while others have been producing for nearly 100 years.

Abandonment of individual wells may start early in a field's life and reach a maximum when the field is depleted. In some cases, wells that formerly produced are plugged as soon as they are depleted. In other cases, depleted wells are not plugged immediately but are allowed to stand idle for possible later use in a secondary recovery program. Truck-mounted equipment is used to plug former producing wells. If the casing is salvaged, a cement plug is put across the casing stub. Cement foundations for pumps and other equipment are removed or buried below ground level. Surface flow and injection lines are removed, but buried pipelines are usually left in place and plugged at intervals as a safety measure.

## **Scenario 2: Off-Highway Vehicle Closures in Winter**

The closure may be located in all or portions of the Lower Bennett Hills, Snake River Plains, and Snake River Rim Geographic Reference Areas. The need for establishing a motorized vehicle closure would be based on consensus between the Idaho Department of Fish and Game and the BLM. A snow depth of 12 inches or greater would most likely initiate agency discussion about motorized vehicle closures. The specific size, frequency and location of a closure area would be determined by the environmental conditions which necessitate the closure. Past experience indicates that the most extensive closure would probably encompass 389,000 acres of public land. The need for a vehicle closure would occur on an average of once every seven years. It should be noted that this closure frequency is only an average, and they may occur back-to-back for several years, if conditions warrant. Closure periods would most likely occur from December 15 through April 15.

Winter off-highway vehicle closures would be based on the needs of wintering big game animals. Wintering big game animals rely, to a large extent, on stored fat reserves to survive through the winter. Snow accumulation and low temperatures increase the energy demand, and therefore the depletion rate, from fat reserves in these wintering animals. Studies, as referenced by Wallmo and Regelin (1981), suggest that deer would expend four to five times as much energy walking in 16 inches of snow and seven to

eight times as much energy walking in 20 inches of snow as walking on bare ground. As snow depths increase, the availability of more easily digestible forage decreases, which adds to the energy demand from fat reserves and accelerates its depletion.

Exemptions from these closures for federal, state, and local government personnel on official duty, emergency service personnel including medical, search and rescue, utility services, and all other licensed/permited individuals may be approved by the Authorized Officer.

## **Scenario 3: King Hill Area Seasonal Closure**

Annual winter off-highway vehicle closures in the King Hill area would be based on environmental conditions. Conditions which would warrant a seasonal closure are wet soil conditions which could lead to motorized vehicle damage of unimproved desert roads and trails.

The closure would encompass about 38,500 acres of public land in the vicinity of King Hill. All county roads and improved desert roads would remain open, but some unimproved desert roads and trails would be closed to motorized vehicle traffic. Approximately 40 miles of road on public land would remain open to vehicle use, while 13 miles of unimproved roads and trails on public land would be closed to motorized vehicles. The need for an off-highway vehicle closure would occur on an average of four out of every ten years. The closures may occur more frequently should a cycle of above normal precipitation occur. Closure periods would most likely occur from November 15 through December 31.

## **Scenario 4: Thorn Creek Pilot Riparian Management Area**

The Thorn Creek Pilot Riparian Management Area is the Shoshone District's pilot project area for the Idaho Pilot Riparian Management Program. The project area contains 6,300 acres within the North Shoshone Cattle and Sheep Allotment. The purpose of the pilot riparian management area is to

## Scenario 4

demonstrate that riparian conditions can be maintained or improved through livestock grazing management practices, and manage the area in an interdisciplinary manner with cooperation between range, wildlife, recreation, and watershed programs.

### Management Actions

1. Adjust livestock forage utilization levels and seasons-of-use to achieve both short-term and long-term increases of key plant species, which include bluebunch wheatgrass, Idaho fescue, meadow foxtail, Nebraska sedge, and willows.
2. Livestock grazing will occur under a spring/late summer/fall modified rest-rotation grazing system. The spring grazing season would run from May 1 through May 31. If utilization of herbaceous vegetation in the riparian area exceeds 60 percent using the key plant method, an earlier spring closing date would be used. The late summer/fall grazing season would run from September 1 through September 30. Livestock utilization of key forage plants would not exceed 50 percent during this use period.
3. Construct five one-acre vegetation study enclosures.
4. Rebuild 3.7 miles of three-strand barbed wire fence.
5. Redesign and rebuild two springs and one reservoir.
6. Resurface the dam structure and refurbish the dam outlet structure to meet Idaho Dam Safety standards.
7. Construct two water gabions in the incised stream channel.
8. Provide recreation opportunities consistent with a "Roaded Natural" recreation opportunity spectrum class.
9. Recreation management will emphasize opportunities for bank, float-tube, and small boat/canoe fishing, car camping, hunting, and

bird watching. Opportunities will be provided for both motorized and non-motorized recreation.

10. The area will be managed to provide a generally natural environment where resource modification and utilization practices are evident but harmonize with the natural environment.
11. The area will be managed to provide visitors equal opportunities for affiliation with other user groups, or isolation from sights and sounds of man.
12. Recreation facilities will be provided primarily for safety and resource protection, and then for user convenience and may include:
  - Improve two parking areas to accommodate a maximum of 10 vehicles total; one near the dam and the other near the reservoir's west arm.
  - Add a wheel chair ramp to the rest room.
  - Develop up to five primitive picnic/camp units and improve approximately  $\frac{1}{2}$  mile of access road.
  - Develop a primitive, non-motorized interpretive loop trail traversing lower Thorn Creek and the adjacent upland.
  - Develop boat launching facilities to the minimum degree necessary to prevent vehicles from getting stuck while launching boats near the dam.
  - The spring grazing period coincides with the heaviest fishing use period. If necessary to alleviate conflicts, construct fence to exclude livestock from the area around the dam and west arm of the reservoir.
13. Recreation facilities will be of a rustic design. One rest room will be installed.
14. Use restrictions will be minimal and indirect on-site control methods (i.e., education, signing) will be used.

## Scenario 5: Wildlife Isolated Tracts

Currently 51 tracts of public land in the planning area (6,349 acres) are being cooperatively managed by Idaho Department of Fish and Game and the BLM under the Isolated Tracts Habitat Management Plan. The plan was developed for the protection and enhancement of upland game habitat, primarily ring-necked pheasants. The isolated tracts of public land typically contain the only permanent, high quality winter and escape cover in a high intensity agricultural area. The primary objective of the habitat management plan is to maintain or improve the integrity of existing winter and escape cover, and nesting cover for upland game birds. Listed below are the planned management actions which may be used to help achieve the objectives of the plan.

1. Enter into cooperative farm agreements with adjacent private land owners to plant and irrigate 15 acres of public land with corn or sorghum to provide winter food and escape cover for ring-necked pheasants.
2. Enter into cooperative farm agreements with adjacent private land owners to plant and irrigate 21 acres of shrub shelterbelts on public land for upland game and non-game winter cover.
3. Enter into cooperative farm agreements with adjacent private land owners to plant and irrigate 50 acres of public land with a grass/forb/shrub mix for upland game bird nesting cover.
4. Plant 941 acres on 27 isolated tracts with a dryland grass/forb/shrub seed mix to provide winter cover and improved spring breeding habitat for upland game and non-game animals.
5. Construct 31 miles of four-strand wire fence around the boundaries of 31 isolated tracts.
6. Obtain 2.6 miles of public easement for public access to seven isolated tracts.
7. Exclude livestock grazing on 40 isolated tracts encompassing 4,817 acres.

## Scenario 6: Reintroduction of Mountain Quail

Mountain quail is the only quail native to Idaho. The portion of the planning area in the Lower Bennett Hills and Upper Bennett Hills Geographic Reference Areas is historic range for mountain quail and possibly contains remnant populations of these quail. Mountain quail appear to be dependent on dense shrubby riparian vegetation during all phases of their life. Declines in mountain quail population and distribution seem to be related to the loss of quality riparian habitat. The general loss of food-bearing shrubs such as snowberry, serviceberry, chokecherry, rose, and elderberry has occurred on sites formally occupied by mountain quail. In many areas willows are the only shrub species which remain from the original riparian vegetation community. These remnant stands of willows provide security cover for mountain quail. The loss of native herbaceous vegetation, especially forbs, has also occurred. This succulent, leafy material is necessary for successful brood rearing.

Mountain quail occur in family groups of up to 15 birds. Genetic investigations of mountain quail populations in Idaho, northwest California, and western Oregon indicate that these separate populations are genetically identical. The mountain quail populations in California and Oregon contain sufficient numbers for trapping and relocation efforts.

At the present, time sections of King Hill Creek and Clover Creek are thought to contain many of the basic habitat requirements for successful reintroduction of mountain quail. These two drainages will be used as examples for a description of possible reintroduction actions.

In an effort to satisfy yearlong habitat needs for mountain quail, riparian areas may be selectively fenced to help assure establishment and growth of existing and planted vegetation. The period of time that the fences or other livestock management techniques are used to protect the vegetation is dependent on the success of revegetation efforts and the effectiveness of grazing management techniques. Some of the desirable plants would include forbs such

## Scenario 6

as alfalfa, clover or sainfoin, and food bearing shrubs such as snowberry, serviceberry, chokecherry, rose, elderberry and hawthorn.

Relocation of mountain quail would require the release of two or three groups of 10 or more birds in each stream drainage containing suitable yearlong mountain quail habitat. Each covey release would be comprised of one or more complete family groups. All quail releases in a drainage would occur in one year. Should suitable yearlong mountain quail habitat be found in the planning area, release efforts may begin as early as 1995.

## Scenario 7: Pronghorn Antelope Unimpeded Movement Measures

Most fences in the planning area have been constructed in conformance with BLM fencing standards for areas containing pronghorn antelope. As such, they have a smooth bottom wire at least 16 inches above the ground. The pronghorn antelope fencing standards normally allow for unimpeded passage. Dense accumulations of vegetation, primarily russian thistle and tumble mustard, against some of these fences has resulted in the restricted movement of pronghorn antelope. Periodic burning of the accumulated material has not been a widely accepted alternative due to the shortened life span and increased maintenance cost of wire fences subjected to fire.

Fences with let down features would be located in both the Snake River Plains and the Lower Bennett Hills Geographic Reference Areas. The exact number and length of let down fence segments is not known at this time. It is reasonable to assume that there would be 20 segments of let down fence, each up to  $\frac{1}{4}$  mile in length. All let down fence segments would have an equal number, kind and spacing of wire as the adjacent permanently fastened wire fence. The location of let down panels would be based on historic movement patterns and high use areas of pronghorn antelope. Due to the prevailing winds, let down panels would be more frequently needed on fences which run north and south. The let down panels would only be erected while cattle are in the affected pastures.

## Scenario 8: Biological Filtering Systems

Biological filtering systems, as envisioned in this plan, are a relatively new approach to agricultural waste water filtering and cleansing. Biological filtering systems have been used in the southeastern United States to remove plant nutrients and agricultural chemicals from agricultural waste water. The filtering system as outlined in this plan incorporates suspended sediment collection ponds with biological water filtering ponds. Construction of these filtering systems should help reduce the amount of suspended sediment, plant nutrients, and chemicals found in some agricultural waste water returns destined for the middle section of the Snake River. These biological filtering systems are made up of three or more interconnected earthen ponds. The first series of ponds are sediment settling ponds. The number, size, shape, and depth of these settling ponds would be determined from measurements of flow volume and suspended sediment in the return water. Sediment would be periodically removed from the settling ponds to help retain filtering efficiency. The frequency of sediment removal from the ponds would be specific to each project area and could only be determined from measurements taken at the proposed site. For this proposal, only one sediment pond per filtering system would be cleaned in any one year. The collected material removed from these ponds may be used to reinforce or expand the existing impoundments, build new impoundments or spread on the adjacent land. The last of the sediment settling ponds would be connected to a series of two or more gently sloping ponds planted with vegetation such as bulrush, cattail, sedge or selected grasses. The biological filtering ponds would be designed to contain water from 6 to 24 inches deep. Plant material in the biological filtering ponds would not be removed unless it was found to be disrupting the normal water flow or filtering capabilities of the pond. Water from the last of the shallow biological filtering ponds would be delivered to a deep water pond ranging from eight to ten feet deep. Outflow from the deep water pond would be directed to a spreader ditch, which would ultimately collect in the nearest waste water canal leading to the Snake River. Water from the spreader ditch may also be spread

along the upper rim of the Snake River to filter and percolate through the rocks before reaching the stream course. Livestock would be excluded from the entire water filtering complex. Exclusion of livestock would reduce filter system maintenance, maintain the integrity of the system, and preserve the wildlife habitat values associated with the biological filtering structures.

It is anticipated that all or portions of 10 biological filtering systems would be located on public land within the 20-year time frame of this plan. Each filtering system is estimated to occupy an average of 20 acres of public land. Livestock grazing is thought to occur on half of the tracts with proposed filter systems. Livestock grazing would be excluded from a total of 100 acres of public land to protect the filtering systems.

It is not the intention of the BLM to propose that all filtering systems or ponds which comprise a water filtering scheme be located on public land. Existing land use allocations on most of the isolated parcels of public land along the Snake River are not compatible with wide-scale development of agricultural waste water filtering systems. The least expensive and most efficient solution to reduction of non-point source pollution is to contain all sediment and nutrients at the point of origin. This approach would place the burden of pollution control on the generator of the pollution, and not on the general public or the natural resource agencies.

## Scenario 9: Vegetation Manipulation

Vegetation manipulation actions may occur in all five geographic reference areas identified in the plan. Primary emphasis would be placed on vegetation manipulation or rehabilitation actions in the Lower Bennett Hills and Snake River Plain Geographic Reference Areas. These two geographic reference areas are presently dominated by monocultures of cheatgrass, medusahead wildrye, and crested wheatgrass, and by shrub communities which lack structural and species diversity. The Upper Bennett Hills and Camas Geographic Reference Areas may receive some limited vegetation manipulation

activities while the public land in the Snake River Rim Geographic Reference Area would receive the least revegetation efforts. The Upper Bennett Hills and Camas Geographic Reference Areas are occupied by plant communities composed of mostly native plant species. They may vary in composition of grasses, forbs, and shrubs, from the goals identified in the Desired Plant Communities for the ecological management zone(s). Vegetation modification would occur primarily outside of wilderness study areas. Should conditions warrant vegetation manipulation inside a wilderness study area, all actions would adhere strictly to Interim Management Policy guidance and notification procedures.

Vegetation manipulation actions will be undertaken to create, or help to achieve, plant communities which contribute to achieving the desired future vegetation condition for the ecological management zone in which the work is done. The Desired Plant Community represents a broad vegetation goal within a ecological management zone. The Desired Plant Community for a given ecological management zone will depend on the particular mix of ecological sites within the area, the present condition of the vegetation, and the mix of uses the vegetation is intended to support. Within all ecological management zones, vegetation will be managed as a mosaic of vegetation types somewhat evenly spaced, rather than large tracts of similar vegetation types. Some unfragmented blocks of homogeneous habitat will be maintained to support species requiring those habitats and to support regional biodiversity. Improved biological diversity over the entire zone is the goal rather than a checkerboard of huge blocks of land dominated by dense shrub stands and large blocks of land with few or no shrubs.

### Alternative A

Vegetation manipulation would be accomplished by prescribed burning, planting, mechanical shrub removal, and herbicide application. An estimated 11,100 acres of vegetation manipulation (see Table B-1 for a breakdown of treatment types) would occur in the Lower Bennett Hills and Snake River Plain Geographic Reference Areas within the 20 year time frame of this plan. Any single vegetation manipulation method, or combination of methods

## Scenario 9

described above, would be employed to reach the Desired Plant Community goals in the Lower Bennett Hills and Snake River Plain Geographic Reference Areas.

In the Upper Bennett Hills and Camas Geographic Reference Areas no vegetation manipulation would occur. The overall cost for vegetation manipulation over the 20-year life of the plan would be \$228,300.

### Alternatives B, C, and D, Moderate Expenditure

Vegetation manipulation would be accomplished by prescribed burning, planting, mechanical shrub removal, and herbicide application. An estimated 40,800 acres of vegetation manipulation (see Table B-1 for a breakdown of treatment types) would occur in the Lower Bennett Hills and Snake River Plain Geographic Reference Areas within the 20-year time frame of this plan. Any single vegetation manipulation method, or combination of methods described above, would be employed to reach the Desired Plant Community goals in the Lower Bennett Hills and Snake River Plain Geographic Reference Areas.

In the Upper Bennett Hills and Camas Geographic Reference Areas, an estimated 7,953 acres would receive vegetation manipulation actions. Due to the high composition of native plant species in these two geographic reference areas, the vegetation manipulation methods would most likely be limited to prescribed burning. In the event of a large wild fire, vegetation planting may be employed to stimulate establishment of desirable forage and cover species. The overall cost for vegetation manipulation over the 20-year life of the plan would be \$1,117,156.

### Alternative B, C and D, High Expenditure

Vegetation manipulation would be accomplished by prescribed burning, planting, mechanical shrub removal, and herbicide application. An estimated 55,350 acres of vegetation manipulation would occur in the Lower Bennett Hills and Snake River Plain Geographic Reference Areas within the 20-year time frame of this plan. Any single vegetation manipulation method, or combination of methods described above, would be employed to reach the Desired Plant Community goals in these geographic reference areas.

In the Upper Bennett Hills and Camas Geographic Reference Areas, an estimated 7,190 acres would receive vegetation manipulation actions. Due to the high composition of native plant species in these two geographic reference areas, the vegetation manipulation methods would most likely be limited to prescribed burning. In the event of a large wild fire, vegetation planting may be employed to stimulate establishment of desirable forage and cover species. The overall cost for vegetation manipulation over the 20-year life of the plan would be \$1,698,000.

TABLE B-1  
 Vegetative Manipulation Techniques for Alternative A,  
 and Alternatives B, C and D  
 Bureau of Land Management  
 Shoshone District, Idaho

	Conventional Seedings <sup>1</sup> (Acres)	Mixed Seedings <sup>2</sup> (Acres)	Inter-seeding Treatment <sup>3</sup> (Acres)	Total Seedings (Acres)	Prescribed Burning (Acres)	Herbicide Application (Acres)
<b>Alternative A</b>						
<u>Treated</u>						
Lower Bennett Hills, Snake River Plain and Snake River Rim Geographic Reference Areas	10,300	N/A		N/A	10,300	300
Upper Bennett Hills and Camas Geographic Reference Areas	0	N/A		N/A	0	0
Total All Geographic Reference Areas	10,300	N/A		N/A	10,300	300
<u>Wild fire</u>						
Lower Bennett Hills, Snake River Plain and Snake River Rim Geographic Reference Areas	61,472	N/A		N/A	61,472	0
Upper Bennett Hills and Camas Geographic Reference Areas	8,008	N/A		N/A	8,008	0
Total All Geographic Reference Areas	69,480	N/A		N/A	69,480	0
<b>ALTERNATIVES B, C AND D</b>						
<u>Moderate Expenditure</u>						
<u>Treated</u>						
Lower Bennett Hills, Snake River Plain and Snake River Rim Geographic Reference Areas	N/A	18,558		13,777	32,335	0
Upper Bennett Hills and Camas Geographic Reference Areas	N/A	935		18	953	5,600
Total All Geographic Reference Areas	N/A	19,493		13,795	33,288	5,600
<u>Affected Area<sup>4</sup></u>						
Lower Bennett Hills, Snake River Plain and Snake River Rim Geographic Reference Areas	N/A	18,558		41,330	59,888	0
Upper Bennett Hills and Camas Geographic Reference Areas	N/A	935		55	990	5,600
Total All Geographic Reference Areas	N/A	19,493		41,385	60,878	5,600

Conventional Seedings <sup>1</sup> (Acres)	Mixed Seedings <sup>2</sup> (Acres)	Inter-seeding Treatment <sup>3</sup> (Acres)	Total Seedings (Acres)	Prescribed Burning (Acres)	Herbicide Application (Acres)
<b>ALTERNATIVES B, C AND D</b>					
High Expenditure					
<u>Treated</u>					
Lower Bennett Hills, Snake River Plain and Snake River Rim Geographic Reference Areas	N/A	30,684	17,306	48,170	0
Upper Bennett Hills and Camas Geographic Reference Areas	N/A	172	18	190	5,600
Total All Geographic Reference Areas	N/A	31,036	17,324	48,360	5,600
<u>Affected Area<sup>4</sup></u>					
Lower Bennett Hills, Snake River Plain and Snake River Rim Geographic Reference Areas	N/A	30,684	51,915	82,779	0
Upper Bennett Hills and Camas Geographic Reference Areas	N/A	172	55	227	5,600
Total All Geographic Reference Areas	N/A	31,036	51,970	83,006	5,600
<u>1/</u> Conventional seedings are described as grass seedings. These grass seedings are designed to provide increased perennial herbaceous forage primarily for domestic livestock use.					
<u>2/</u> Mixed seedings are comprised of a mixture of native and introduced perennial grasses, forbs, and shrubs. The plant species in the seeding mixture would vary by vegetation zone in an effort to improve establishment of the seeded species. Mixed seedings would be designed to improve the quality of wildlife habitat for resident and migrating wildlife species and to improve livestock forage.					
<u>3/</u> Inter-seeding is the practice of introducing additional plant species into an existing vegetation community. Varying the composition of the plant community would improve wildlife habitat values and livestock forage. Inter-seeding would principally occur on vegetation communities dominated by either introduced perennial grasses or native shrubs.					
<u>4/</u> <i>Affected Area</i> refers to the area influenced by a particular revegetation or vegetation modification action. The area affected by a mixed seeding is the same as the area treated with a mixed seeding. On the other hand, inter-seeding would create a mosaic of plant communities dominated by different plant species. Because of the mosaic, irregular nature of inter-seeding, every acre inter-seeded would affect more acres than the number of acres seeded. Thus, about three acres of public land would be improved for multiple use for every acre treated by inter-seeding.					

## **Scenario 10: Reintroduction of Columbian Sharp-tailed Grouse**

Recent public surveys conducted for the Idaho Department of Fish and Game indicate a high interest in restoring Columbian sharp-tailed grouse to their historic range. A portion of the planning area, primarily the Upper Bennett Hills and Camas Geographic Reference Areas are within the historic range of Columbian sharp-tailed grouse. It is thought that a portion of these areas still contain many of the principle habitat components necessary for the grouse. A habitat suitability model for this grouse is presently being developed. This model would be used to evaluate existing habitat for possible reintroduction of grouse. The suitability model could also be used to identify the habitat improvements necessary to satisfy their needs.

An important consideration for successful reintroduction of Columbian sharp-tailed grouse is the amount of herbaceous material left for nesting and brood security cover. Studies indicate that these grouse require relatively dense stands of herbaceous vegetation for successful nesting and brood rearing. Before reintroduction efforts are attempted, areas with herbaceous material at least eight inches high would need to be available for nesting and brood rearing activities.

The exact acreage of suitable historic Columbian sharp-tailed grouse habitat is not known at the present time. For this planning effort a figure of 35,000 acres of suitable sharp-tailed grouse habitat will be used.

An area containing 10,000 acres of suitable yearlong Columbian sharp-tailed grouse habitat would have three successive introductions of 100 birds per year. A minimum release size would be 50 birds a year. All releases would be comprised of an equal number of males and females. At the present time, an adequate population of Columbian sharp-tailed grouse exists in Idaho from which to capture birds for reintroduction into suitable historic range.

## **Scenario 11: Backcountry Byways**

The Bliss-Hill City Backcountry Byway would be managed for recreation opportunities in the roaded natural recreation opportunity class spectrum. Interpretive kiosks would be erected at both access points. The BLM would develop up to five primitive picnic/camp sites along Clover Creek. The sites would include fencing to exclude livestock.

The Davis Mountain Byway would be managed to provide recreation opportunities in the semi-primitive motorized recreation opportunity class. Kiosks would be provided at both access points. No further facilities will be provided.

## **Scenario 12: Little City of Rocks Special Recreation Management Area**

The Special Recreation Management Area would be managed to provide recreation opportunities in both the semi-primitive motorized and semi-primitive non-motorized recreation opportunity spectrum classes. Goals, objectives, and management actions would be developed with an interdisciplinary plan and public input in the proposed Special Recreation Area Management Plan. Assuming BLM is able to acquire the 267-acre parcel of private land on the south boundary, BLM would provide one trailhead with parking for ten vehicles, and about five miles of primitive, non-motorized walking trail.

Under Alternative C, the BLM would provide up to 3 trailheads, each with primitive parking for five vehicles, and about 25 miles of primitive, non-motorized trail.

## **Scenario 13: Magic Reservoir Special Recreation Management Area**

Future management at the Magic Reservoir Special Recreation Management Area will continue to carry out the objectives and goals that were established in the 1984 Recreation Area Management Plan, and prioritized in the 1987 Operations and Implementation

## Scenario 13

Plan. Both plans call for management to provide for recreation use and resource protection. These plans will be updated and revised as needed to reflect changing recreation use demands and resource protection needs. This will be accomplished with an interdisciplinary planning team. Current plan direction and future revisions may include the following actions:

- The Magic Reservoir area would be managed to provide recreation opportunities in a "Roaded Natural" Recreation Opportunity Spectrum.
- BLM would continue to maintain five miles of access road to the Lava Point, Cove, and Creek sites, and to the dam. Once legal access is obtained, the road to Myrtle Point would also be included.
- BLM would continue to maintain directional signing and would develop an interpretive signing plan for the reservoir.
- BLM would continue the Cooperative Management Agreements with Blaine County and the "Dam Fools Recreation Club".
- BLM would develop a 10-unit campground at Lava Creek, 5 recreation units at Lava Cove, and three units at Lava Point. Units would include fencing to exclude livestock.
- BLM would continue to pursue legal access to Myrtle Point. If access is obtained, five recreation units would be developed in the vicinity.

## Scenario 14: River-to-the-Mountains Special Recreation Management Area

The area includes a corridor along Highway 93/75 from the Snake River Canyon to the Sawtooth Mountains. This route is heavily traveled by tourists enroute to the world-class Sun Valley destination resort and the Sawtooth National Recreation Area. The purpose of the Special Recreation Management Area would be to provide travelers with opportunities to learn about the many geologic features in view

along the highway. Although alternate side trips would offer semi-primitive recreation opportunities, the corridor itself would be managed to provide opportunities consistent with the "Roaded Natural" or "Rural" classes of the Recreation Opportunity Spectrum.

The corridor would consist of a series of highway pullouts from which interesting geologic features could be viewed. Visitors would refer to numbered posts that would correspond to an interpretive guidebook. About seven pullouts are proposed for the Bennett Hills Resource Area, and possibly five for the Monument Resource Area. Facilities at each site would minimally include a numbered post. Depending upon available space, cooperative management opportunities, resource interpretation opportunities and visitor demand, some sites may also include graveled parking areas, picnic tables, and additional interpretive signs.

The proposed pullouts and possible facilities may include the following:

1. Buzz Langdon Visitor Center: No facilities are proposed. An interpretive guidebook would be distributed and collected here.
2. Blue Lakes Alcove: Numbered post, parking.
3. Snake River Rim: Developed lookout for Pillar Falls, parking, footpath, picnic tables, toilet, and fence to keep livestock out.
4. Notch Butte: Parking, interpretive sign.
5. Shoshone District Office: No new facilities, visitors welcome, guidebooks would be distributed and collected here.
6. Black Butte: Parking, interpretive sign, trailhead.
7. Fossil River Canyon: Parking, interpretive sign, short trail.

## Scenario 15: Snake River Rim Special Recreation Management Area

The Snake River Rim Special Recreation Management Area would be managed for roaded natural, semi-primitive non-motorized, and semi-primitive motorized recreation opportunities. Depending on resource capability, the interdisciplinary plan could approve the following recreation developments under Alternative B. Estimates of the visitor use with and without facilities are shown in Table B-2.

1. Cauldron Linn: Maintain the access road, possibly install one vault toilet, and provide an interpretive sign and primitive trail to the waterfall.
2. Murtaugh Bridge: BLM would maintain about  $\frac{1}{4}$ -mile of access road and the boat ramp. One vault toilet may be provided.
3. Hansen Bridge: This site would be managed to provide a public scenic overlook and picnic area. BLM would provide parking for ten vehicles, and a fence or rock wall barrier along the Snake River Rim. An interpretive sign, three picnic units, and one mile of primitive walking trail would be developed. One vault toilet may be provided.
4. Main Rim: About 15 miles of primitive roads would be maintained. Parking areas would be established near Devil's Corral and the Pillar Falls overlook site, each with space for ten vehicles. An interpretive viewpoint for Pillar Falls would be developed, consisting of a sign, a fence to exclude livestock, a rock barrier along the rim viewing area, five picnic units, and one vault toilet. BLM would establish 15 miles of motorized trails in the main rim area, and about ten miles of non-motorized trails at Devil's Corral and Vineyard Lake. BLM would develop an interpretive and directional pullout near the Highway 93 entrance, with room for five vehicles. Depending on user support, BLM may

either develop or issue leases for a motocross track and/or a shooting range.

5. Jerome Tract: BLM would develop five picnic units and parking for ten vehicles.
6. Bliss Tract: BLM would maintain one mile of graveled access road, and provide one vault toilet.

Depending on resource capability, the interdisciplinary plan could approve the following recreation developments under Alternative C.

1. Cauldron Linn: BLM would maintain about one mile of access road, and one vault toilet may be provided.
2. Main Rim: About two miles of primitive road would be maintained. An interpretive center for the Oregon Trail would be developed near the rim access point.
3. Bliss Tract: If adjacent land is acquired, five picnic units would be developed, and one vault toilet may be provided.

## Scenario 16: Mormon Reservoir Recreation Scenario

BLM would manage this area to provide recreation opportunities in a roaded natural recreation opportunity class. Depending on visitor use demands and cooperative management opportunities, BLM would develop a 15-unit campground, and provide potable water, at a cost of \$24,000.



**TABLE B-2**  
**Recreation Use in the Snake River Rim**  
**Special Recreation Management Area**  
**With and Without Recreation Facilities**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Plan Year	Annual Growth Rate (%)	Annual Use Without BLM or R&PP Facilities (hours/year)	Annual Increase From BLM Facilities (hours/year)	Annual Use With BLM Facilities (hours/year)	Annual Increase From BLM & R&PP Facilities (hours/year)	Annual Use With BLM & R&PP Facilities (hours/year)
1		76,250	739	76,989	7,139	83,389
2	2	77,775	739	79,268	7,139	92,196
3	2	79,331	739	81,592	7,139	101,179
4	2	80,917	739	83,963	7,139	110,341
5	2	82,535	739	83,381	7,139	119,687
6	2	84,186		88,108		122,081
7	2	85,870		89,871		124,522
8	2	87,587		91,668		127,013
9	2	89,339		93,502		129,553
10	2	91,126		95,372		132,144
11	2	92,948		97,279		134,787
12	2	94,807		99,225		137,483
13	2	96,703		101,209		140,233
14	2	98,638		103,234		143,037
15	2	100,610		105,298		145,898
16	2	102,622		107,404		148,816
17	2	104,675		109,552		151,792
18	2	106,768		111,743		154,828
19	2	108,904		113,978		157,925
20	2	111,082		116,258		161,083

## **Scenario 17: Temporary Non-renewable Livestock Use Scenario**

Livestock grazing is a recognized use of the public land. Many requests are received from permittees for grazing outside the recognized permitted season of use and/or over the permitted use. Two criteria will be assessed.

### **Additional Use Less Than 10 Percent Above Permitted Use or Fourteen Days Beyond Permitted Use**

Requested additional use over the permitted use (temporary non renewable) for two weeks (14 days) may be authorized when a site-specific field inspection has occurred and interdisciplinary coordination conducted with staff members (see Table B-3). The additional grazing use would not exceed 10 percent of the total permitted use. Non-renewable use generally occurs in the fall when the forage consumed is dormant. No temporary non-renewable use should be authorized during the winter (January/February) months. Available forage during this period shall be reserved for wildlife to enhance chances of survival due to severe winters. Ungrazed vegetation also receives added protection for winter conditions and has greater potential to trap moisture enhancing the vigor of plant species.

This type of authorized use takes into account problems which may arise for permittees removing their livestock from the public land due to weather conditions or livestock operation problems without penalties imposed.

Authorization for this type of use would occur on 1) crested wheatgrass seedlings in the fall to eliminate old growth in the stand. This may occur about one year out of five where heavier use above the normal authorized use is desired; or 2) annual grass stands (cheatgrass) to eliminate excessive growth in areas consisting of a monoculture site. This type of use would not be authorized on native stands in the planning area. The main geographic reference areas where this type of use would occur are the Snake River Rim, Snake River Plain, and the lower third of the Lower Bennett Hills.

Generally, authorized grazing takes place under a grazing management system using only a portion of the allotment at a time. Thus, additional authorized use would occur on only a portion of the allotment. Coordination with the wildlife staff should be conducted to help eliminate any unforeseen problems. This type of use is seen as occurring with less than 10 percent of the permittees in the planning area.

### **Additional Use Greater Than 10 Percent Above Permitted Use or Fourteen Days Beyond Permitted Use**

Any request for temporary non-renewable use greater than two weeks (14 days) or 10 percent above permitted use is viewed as a major impact. An environmental assessment report would be required assessing the impact(s) to the vegetation, wildlife, and recreation.

## **Scenario 18: Reasonable Foreseeable Scenario for Proposed Range Improvements**

Construction or installation of different types of range facilities may be placed on the public land. These include wells and storage tanks, water pipelines, spring developments, reservoirs, fences, cattleguards, and troughs. A typical description of range improvements may be obtained by referencing the *Final Shoshone Grazing Environmental Statement* dated 1979, pages 1-29 to 1-35.

Certain land treatments such as prescribed burns, seeding projects, greenstrip projects, and noxious weed spraying may also occur.

Completion of the following range improvements for grazing purposes are envisioned over the life of this plan: 5 well, 40 miles of water pipeline, 10 spring developments, 15 reservoirs, 40 miles of fence, 35 cattleguards, and 90 water troughs. For vegetation treatments see Scenario 9.

## Range Improvement Constraints

All range improvements would be accomplished in conformance with BLM manual requirements and would be subject to the minimum constraints summarized below. Particular types of range improvements and more specific constraints may be referenced in more detail under "Typical Descriptions of Range Improvements" located in the *Final Shoshone Grazing Environmental Statement* dated 1979.

**Environmental Protection:** A site-specific environmental assessment would be prepared prior to any work on a range improvement project. The assessment would require interdisciplinary involvement to insure that the project would be environmentally acceptable, that all resources were considered, and that adverse impacts were minimized or mitigated.

**Cultural Resources Inventory:** Areas considered for range improvements would be surveyed by a professional archaeologist prior to construction to determine if cultural values were present. If such values were found and evaluated as significant, the project would be redesigned, relocated, or canceled to avoid disturbance to the cultural resource.

**Threatened or Endangered Species:** A survey and clearance would be completed for threatened, endangered, or special status plants and wildlife species as current regulations and policy dictate.

**Surface Protection:** Disturbance of soil and vegetation during implementation of range improvements would be held to an absolute minimum. Land clearing for wells, pipelines, fences, access roads, etc., would be avoided when possible. Disturbed areas would be contoured, smoothed, and seeded. Locations of projects would be selected to avoid or minimize potential erosion. Existing roads and trails would be used to the extent possible for access to new project sites.

**Topsoiling and Seeding:** In instances where range improvements would result in excavation or substantial surface disturbance, topsoil would be stockpiled prior to disturbance and replaced after project completion. Any denuded areas would be reseeded with a mixture of grasses and/or other plant species to protect the soil and restore the area.

**Wilderness Preservation:** Development of new range improvements and maintenance of existing improvements needed to support livestock grazing management would continue, provided they did not cause undue degradation, and did not impair the suitability of the area and affect the wilderness preservation. Range improvements may be prohibited in certain areas as outlined in this plan.

**Visual Quality:** The visual impact of any proposed project would be considered before approval of location and design. The techniques explained by the BLM manual for Visual Resources would be employed to reduce any potential visual impacts.



**TABLE B-3**  
**Allotments Most Likely to Receive**  
**Non-renewable Authorization**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Allotment	Acres	Current Preference (AUM)	Non-Renewable Authorization	Total Authorization
Antelope	9,567	1,372	137	1,509
Camp I*	10,957	2,006	200	2,206
Canyon	14,056	2,649	265	2,914
Ear Creek	3,909	388	39	427
Fairfield	644	74	7	81
Interstate	1,023	179	18	197
Kinzie Butte	8,893	794	79	873
Milner Plot	2,574	400	40	440
North Milner	24,527	4,805	481	5,286
Notch Butte*	10,902	1,688	0	1,688
Pioneer*	1,708	460	46	506
South Milner	9,374	1,536	154	1,690
Ticeska	4,164	642	64	706
Tunupa	3,023	519	52	571
<b>TOTALS</b>	<b>105,321</b>	<b>17,512</b>	<b>1,582</b>	<b>19,094</b>

(25% area used)                    29,926

Non-renewable use would account for 2.5% increase over the permitted use if authorized.

Assumption: only 25% of the public land in each allotment would be used for non-renewable use.

\*Allotments with fall/winter non-renewable use inside crucial deer winter range - 23,567 acres of which 25% of area authorized for use = 5,892 acres and 250 AUMs.

## **Scenario 19: Beaver Reintroduction Scenario**

Beaver reintroduction has been a small, but ongoing, interagency program in the planning area since 1986. Beaver are live-trapped from smaller streams for transplanting. If possible, a family group, or "close neighbors", consisting of 3-5 individuals, are transplanted because the individuals "know each other" and tend to stay together rather than spread out and become territorial (Pence, 1991). The sources of the beaver for transplanting have been Soldier Creek which is located within the planning area, and Fish Creek which is located within the Shoshone District but outside the planning area. The reason beaver from small streams are selected is because they tend to build dams and lodges which accomplishes the goals of slowing the water, trapping sediment, widening riparian zones, stabilizing banks, etc. The so-called "river beaver" from larger streams, like the Big Wood River, generally cut trees and feed upon the riparian vegetation as they move up and down the river. The river beaver tend not to "set up housekeeping" by building dams and lodges, and spending their lives in small localized areas. When river beaver are transplanted they soon abandon the small streams and may attempt to relocate to a larger stream "more to their liking". A beaver away from water is easy prey for coyotes, bobcats, or even stray dogs. Within the planning area, beaver have been successfully transplanted to the creeks shown in Table B-4.

In the short term, beaver are proposed for reintroduction to the creeks shown in Table B-5 when conditions are right (stream flow is adequate and beaver community groups are available).

Within the planning area, long-term beaver reintroduction by transplanting or natural migration into suitable creeks (with adequate woody riparian plant community, adequate stream flow, and either an effective livestock grazing system in place or no livestock grazing permitted) is reasonably expected to occur at an average rate of 10 beaver per year on two stream reaches per year (5 beaver per reach) with each stream reach averaging approximately one mile. That is not to say that 10 beaver would potentially

occupy "new areas" each year. Rather, on dry years none would be introduced, while on very favorable years as many as 20-30 individuals would occupy "new areas" either by being transplanted or by being "kicked out" by their mothers as two-year-olds.

Assuming a mortality rate of 70 percent, a disappearance (out migration) rate of 24 percent (beaver are not altogether predictable), there could be as much as 6 percent net annual increase in beaver population each year for 20 years. The results shown in Table B-6 indicate a potential tripling of beaver populations during the life of the plan.

## **Scenario 20: Vineyard Lake Recreation Development Scenario**

This scenario includes the assumption that BLM would be able to acquire the adjacent private property. All development would be designed to minimize potential degradation to the outstanding scenic and ecological values of the Vineyard lake alcove ecosystems. One state sensitive species is known to exist in the area and it is suspected that the area contains habitat suitable for other sensitive species. Should future inventories detect the presence of such species, development described in this scenario may be modified or curtailed to ensure long-term habitat protection.

1. interpretive center at the existing house (25-person capacity);
2. parking at the entrance for 12 vehicles;
3. three picnic units at the center (table and shelter);
4. one vault toilet with the picnic units;
5. walking trail (about three miles) to Vineyard Lake and Creek with branch-off segment leading west to Devil's Corral;
6. trailhead with kiosk and parking for eight vehicles;
7. campground near visitor center and trailhead,  $\frac{1}{4}$ -mile gravel access way, five units (shelter, table, and grill), potable water, and one vault toilet.

**TABLE B-4**  
**Areas of Successful Beaver**  
**Reintroduction Within the**  
**Bennett Hills Resource Management Planning Area**

Creek Name	Geographic Reference Area
Bellmare Creek	Bennett Hills, Lower Bennett Hills
Clover Creek	Bennett Hills
Dry Creek	Bennett Hills
Corral Creek	North Camas
Willow Creek	North Camas (Private Land)

Source: Pence, 1991

**TABLE B-5**  
**Areas Proposed for Beaver**  
**Reintroduction in the Short-term**  
**(1-3 years) Within the**  
**Bennett Hills Resource Management Planning Area**

Creek Name	Geographic Reference Area
Dempsey Creek	Bennett Hills
Preacher Creek	Lower Bennett Hills
Thorn Creek (Trib. to Dry Creek)	Bennett Hills
Timber Gulch Creek	Lower Bennett Hills
Little Deer Creek	North Camas

Source: Pence, 1991.

TABLE B-6

**Potential Beaver Population Increases  
During 20 Years in the Bennett Hills  
Resource Management Planning Area for Each  
100 Animals in the Present Population**

Five Year Period	Beginning Population	Net Increase	Ending Population
1-5	100	33	133
6-10	133	46	179
11-15	179	60	239
16-20	239	81	320

### Scenario 21: Timber Harvesting

The scenario is to salvage all merchantable dead Douglas-fir trees greater than ten inches (diameter at breast height) on approximately 93 acres of BLM-administered land (approximately one million board feet) in the Big Deer Creek, Little Deer Creek, and Cookstove Creek drainages with the exception of those trees left for wildlife and biodiversity. These drainages are located in T. 1 S., R. 15 E., Sections 8, 9, and 15, all within Camas County. All removal of timber on public land would be conducted with helicopters. No timber would be harvested within 75 yards of Big Deer Creek.

There would be approximately one and one tenth miles of new road constructed on public land. An additional one mile of existing road (0.6 miles on public land) paralleling Big Deer Creek, would be improved to allow access of logging equipment to state land and for the ultimate removal of timber from yarding sites by truck. The helicopter landing in Big Deer Creek would be located on the border of state and public land. It would utilize a natural opening of minimum size on gentle to moderate slopes and away from drainage courses. All roads would be built to standards necessary for hauling timber (a 14-foot outsloped running surface with cross ditches placed in appropriate locations to lead any runoff onto vegetated areas). After completion of the proposed action, *Powder River*-style gates would be installed at the lower section of the new road near its intersection with Big Deer Creek. All proposed roads would be

maintained to allow future management and agency access to state and public land. The stream crossing would avoid using on-site parent materials. They would require culvert placement and clean/washed angular rock as fill (one to three inches in diameter). Fill and culvert would be removed at the project completion. The size of the culvert would be determined by the state engineer and would comply with the *Idaho Forest Practices Act*, Rule 4.a.vi and title 42 Chapter 38 of the Idaho Code. Application and approval of a Section 404 Stream Alteration Permit would be required prior to construction. All roads, cut banks, and berms would be monitored annually by the BLM and would be treated as necessary with appropriate herbicides to control the spread of noxious weeds.

Two-year-old ponderosa pine would be planted, using 8x8 foot spacing, on suitable acres (estimated at 60%) following harvest. Planting would occur as seed is collected (locally) and seedlings become available, currently estimated at three to four years after the harvest is complete. In planting these trees an area no greater than one yard in radius around the pine seedlings would be disturbed. Upon completion of the sale, if harvested areas have substantially more than three tons-per-acre of fine fuels, a cool prescription (spring or fall) prescribed broadcast burn would be implemented to reduce the amount of those fuels (especially fuels less than ½ inch in diameter).

Disturbed areas (most skid trails, yarding areas, etc.) would be rehabilitated with native grasses and forbs

or an appropriate authorized seed mixture. Native seed, such as *Stipa columbiana* and *Lupinus* spp., could be readily collected on site. If disturbed areas are small, reseeding could be accomplished entirely with seed collected on site.

The harvest prescription would retain snag and wildlife trees greater than twelve inches in diameter at breast height, at a density of no less than four per acre. Retained snags should be selected next to live trees or within groups of trees not meeting harvest standards, that would otherwise be left. Public land in the project area would be closed to firewood cutting to insure the maintenance of snags.

Eleven downed Douglas-fir logs would be maintained or created per acre. Where such logs do not currently exist they would be felled perpendicular to the fall of the slope. Based on the average size of the trees (15 inches in diameter and 80 feet tall with a density of 30 lbs/ft<sup>3</sup> = 982 lbs) this would represent approximately 5.5 tons per acre of large woody material for nutrient cycling, nitrogen fixing organisms, mycorrhizal fungi, and to aid in temperature stabilization and moisture retention. The

amount of material left would be within the parameters established by the State Forester Forum. Fine woody material would be left in the form of harvest slash (branches and tops to five inch diameter) and would be lopped and scattered to a depth of no more than 24 inches except that a portion of the slash would be piled three feet or higher in a manner that would deflect livestock attempting to enter the area.

All logging operations would be conducted between June 1 and December 1 to minimize soil erosion during spring runoff.

Following planting of ponderosa pine seedlings, and in a effort to protect those seedlings, livestock use in planted areas would be controlled by requiring the livestock operator to ride two times per week during the grazing season, for four to six years or until such time as the plantation is firmly established or capable of withstanding grazing pressure. Additionally, no salt would be placed within ¼ mile of any harvest unit.





# APPENDIX C: WILDLIFE

**TABLE C-1**  
**Wildlife Potentially Living in the**  
**Bennett Hills Resource Management Plan Area**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

Common Name Scientific Name	1/ R	2/ S	3/ C	VEGETATION ZONE 4/																									
	A	C	L	C	R	A	W	S	A	L	A	M	S	A	A	T	S	L	C	G	S	C	B	L	M	C	D	Z	A
<b>MAMMALS</b>																													
Black Bear <i>Ursus americanus</i>	u	y	l	GA	x					x	o													o	x	x	0		
Raccoon <i>Procyon lotor</i>	u	y	l	FB	o																			x	0		0		
Shorttail Weasel <i>Mustella erminea</i>	c	y	l	PR	o																				0				
Longtail Weasel <i>Mustella frenata</i>	c	y	l	PR	o																				0				
Mink <i>Mustella vison</i>	c	y	l	FB	o																				0				
Wolverine <i>Gulo gulo</i>	r	y	l	PN																					0				
Otter <i>Lutra canadensis</i>	u	y	l	FB	o																								0
Spotted Skunk <i>Spilogale putorius</i>	u	y	l	PR	o																				x	0	0		
Striped Skunk <i>Mephitis mephitis</i>	c	y	l	PR	o																				x	0	0	0	
Badger <i>Taxidea taxus</i>	c	y	l	FB	o	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	0	0	0			
Red Fox <i>Vulpes vulpes</i>	u	y	l	FB	o																				x	0	0	0	
Coyote <i>Canis latrans</i>	a	y	l	PR	o	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
Grey Wolf <i>Canis lupus</i>	r	w	PN																						0				
Mountain Lion <i>Felis concolor</i>	u	y	l	GA	o	Associated with rough rocky terrain and canyons more than vegetation.																							
Lynx <i>Felis lynx</i>	r	y	l	FB																						0			
Bobcat <i>Felis rufus</i>	u	y	l	FB	o	x				x		x		x		x		x		x		x				0			
Yellowbelly Marmot <i>Marmota flaviventris</i>	a	y	l	UN	o	x			x		x		x		x		x		x		x		x		x	0			
Townsend Ground Squirrel <i>Spermophilus townsendi</i>	u	y	l	UN	o	x			x		x		x		x		x		x		x		x		x	0			
Columbian Ground Squirrel <i>Spermophilus columbianus</i>	c	y	l	UN	o																				x	0		x	0
Least Chipmunk <i>Eutamias minimus</i>	c	y	l	PN		x			x		x		x		x		x		x		x		x		x	0	0	0	
Richardson's Red Squirrel <i>Tamiasciurus hudsonicus</i>	u	y	l	PN																					x	0			
Townsend Pocket Gopher <i>Thomomys townsendi</i>	u	y	l	UN	o	x			x		x		x		x		x		x		x		x		x	0	0	0	0
Northern Pocket Gopher <i>Thomomys talpoides</i>	u	y	l	UN	o	x			x		x		x		x		x		x		x		x		x	0	0	0	0
Great Basin Pocket Mouse <i>Perognathus parvus</i>	c	y	l	UN	o	x			x		x		x		x		x		x		x		x		x	0	0		
Ord Kangaroo Rat <i>Dipodomys ordii</i>	c	y	l	UN	o	x			x		x		x		x		x		x		x		x		x	0			
Beaver <i>Castor canadensis</i>	c	y	l	FB	o	x			x		x		x		x		x		x		x		x		x	0		x	0
Northern Grasshopper Mouse <i>Onychomys leucogaster</i>	c	y	l	UN	o	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			

Common Name Scientific Name	1/ R E L A U T I V E C	2/ A B E A S D N C O	3/ S O C L A R I F I	VEGETATION ZONE 4/																							
				R	A	W	S	A	L	A	M	S	A	A	T	S	L	C	G	S	C	B	L	M	C	D	Z
<b>MAMMALS (Cont'd)</b>																											
Western Harvest Mouse <i>Reithrodontomys megalotis</i>	c	yl	UN		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	O	X	O	X	O
Canyon Mouse <i>Peromyscus crinitus</i>	c	yl	UN	X	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	
Deer Mouse <i>Peromyscus maniculatus</i>	a	yl	UN	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
Desert Wood Rat <i>Neotoma lepida</i>	c	yl	UN	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	O	O			
Bushy-tailed Wood Rat <i>Neotoma cinerea</i>	c	yl	UN		Associated with rim rock and rock slides																						
Long-tailed Vole <i>Microtus longicaudus</i>	c	yl	UN	X	O																						
Mountain Vole <i>Microtus montanus</i>	u	yl	UN		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	O	X	O			
Sagebrush Vole <i>Lagurus curtatus</i>	u	yl	UN	X	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O		
Muskrat <i>Ondatra zibethicus</i>	c	yl	FB	X	O																					X	O
Norway Rat <i>Rattus norvegicus</i>	u	yl	UN		Closely associated with man made structures																						
House Mouse <i>Mus musculus</i>	c	yl	UN		Closely associated with man made structures																						
Western Jumping Mouse <i>Zapus princeps</i>	c	yl	UN	X	O																						
Porcupine <i>Erethizon dorsatum</i>	u	yl	UN	X	X	O	O		X	O	O	O	O	O	O	O	O	O	O	O	O	O	X	X	O	O	
White-tailed Jack Rabbit <i>Lepus townsendi</i>	u	yl	PR	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	O					
Snowshoe Hare <i>Lepus americanus</i>	c	yl	GA	O																					X	O	
Black-tailed Jack Rabbit <i>Lepus californicus</i>	a	yl	PR	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	X	X	O		
Mountain Cottontail <i>Sylvilagus nuttallii</i>	a	yl	GA	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	X	O	O		
Pygmy Rabbit <i>Sylvilagus idahoensis</i>	u	yl	GA	O	O				X	O	O	O	O	O	O	O	O	O	O	O	O	O	X	O	O		
Moose <i>Alces alces</i>	u	yl	GA	O																							
Rocky Mountain Elk <i>Cervus elaphus</i>	c	yl	GA	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	X	O	
Mule Deer <i>Odocoileus hemionus</i>	c	yl	GA	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	X	
Pronghorn Antelope <i>Antilocapra americana</i>	c	yl	GA	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O		
Little Brown Bat <i>Myotis lucifugus</i>	u	ms	UN	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O		
Townsend's Big Eared Bat <i>Plecotus townsendii</i>	c	yl	PN	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O		
Pallid Bat <i>Antrozous pallidus</i>	u	ms	UN	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O		
Western Pipistrelle <i>Pipistrellus hesperus</i>	u	ms	UN	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O		
Small-footed Myotis <i>Myotis leibii</i>	c	yl	UN	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O		
Silver-haired Bat <i>Lasionycteris noctivagans</i>	u	ms	UN	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O		
Yuma Myotis <i>Myotis yumanensis</i>	u	m	UN	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O		
Long-eared Myotis <i>Myotis evotis</i>	u	ms	UN	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O		

#### REPTILES

Leopard Lizard <i>Gambelia wislizenii</i>	c	yl	UN	X	O	X	O	X	O	X	O	X	O	X	O	X	O	X	O	X	O				
Western Fence Lizard <i>Sceloporus occidentalis</i>	c	yl	UN	X	O	X	O	X	O	X	O	X	O	X	O	X	O	X	O	X	O				

Common Name Scientific Name	1/ R E L L A T T I V E C E	2/ A S E C A C O N R V C E	3/ C L C A S T I N F C E	VEGETATION ZONE 4/																
REPTILES (Cont'd)				R A S E B E L U A N D I A V E C E	S O C A C O N R M Z O N B E	C L C A S T I N F C E	R Y P T R W I Z G O N B H E I G	A W Y O G I B R U S H U S H E O N E	S A R T R B I G Z O N E G E	A L O R V B R U S H U S H E O N E	M A T R E B R U S H U S H E O N E	S A R L K O A L I Z O N E G E	A T R E B R U S H U S H E O N E	T S H A V F L E X F L O W	L C G S C R O P L A R R E N F L O W S	B L A V A R R E N F L O W S	M E A D O W S	C O N I F E R O U S	D E C I D U O U S	A Q U A T I C
Sagebrush Lizard	c	yl	UN	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O			
<i>Sceloporus graciosus</i>																				
Short Horned Lizard	c	yl	UN		X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O			
<i>Phrynosoma douglassi</i>																				
Desert Horned Lizard	c	yl	UN		X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O			
<i>Phrynosoma platyrhinos</i>																				
Western Skink	c	yl	UN		X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O			
<i>Eumeces skiltonianus</i>	u	yl	UN		O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O			
Western Whiptail	c	yl	UN		X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O			
<i>Chamidophorus tigris</i>	u	yl	UN		O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O			
Rubber Boa	c	yl	UN		X O													X O		
<i>Charina bottae</i>	u	yl	UN		O O													X O		
Racer	c	yl	UN		X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O			
<i>Coluber constrictor</i>																				
Striped Whipsnake	c	yl	UN		X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O			
<i>Masticophis taeniatus</i>	u	yl	UN		O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O			
Gopher Snake	c	yl	UN		X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O			
<i>Pituophis melanoleucus</i>	c	yl	UN		O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O			
Long-nosed Snake	c	yl	UN			X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O			
<i>Rhinocheilus lecontei</i>	u/r	yl	UN		O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O			
Common Garter Snake	c	yl	UN			X O											X O			
<i>Thamnophis sirtalis</i>	c	yl	UN		O O												X O			
Western Garter Snake	c	yl	UN			X O											X O			
<i>Thamnophis elegans</i>	c	yl	UN		O O												X O			
Night Snake	c	yl	UN		X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O			
<i>Hypsiglena torquata</i>	u	yl	UN		O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O			
Western Rattlesnake	c	yl	UN		X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O	X O			
<i>Crotalus viridis</i>	c	yl	UN		O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O	O O			

#### AMPHIBIANS

Long-toed Salamander	u	yl	UN	X O														
<i>Ambystoma macrodactylum</i>																		
Great Basin Spadefoot Toad	u	yl	UN		X O													
<i>Scaphiopus intermountanus</i>	u	yl	UN		O O													
Western Toad	u	yl	UN			X O											X O	
<i>Bufo boreas</i>	u	yl	UN		O O												X O	
Bullfrog	c	yl	GA															X O
<i>Rana catesbeiana</i>	u	yl	GA															X O
Pacific Tree Frog	u	yl	UN		X O												X O	X O
<i>Hyla regilla</i>	u	yl	UN		O O												X O	X O
Chorus Frog	c	yl	UN			X O											X O	X O
<i>Pseudacris nigrita</i>	u	yl	UN		O O												X O	X O
Leopard Frog	c	yl	UN			X O											X O	X O
<i>Rana pipiens</i>	u	yl	UN		O O												X O	X O

#### FISH

Bluegill	c	yl	GA															X O
<i>Lepomis macrochirus</i>																		X O
Pumpkinseed	u	yl	GA															X O
<i>Lepomis gibbosus</i>																		X O
Bridgelip sucker	c	yl	UN															X O
<i>Catostomus columbianus</i>																		X O
Largescale sucker	c	yl	UN															X O
<i>Catostomus macrocheilus</i>	a	yl	UN															X O
Brook Trout	c	yl	GA															X O
<i>Salvelinus fontinalis</i>	c	yl	GA															X O
Brown Trout	c	yl	GA															X O
<i>Salmo trutta</i>	c	yl	GA															X O
Cutthroat Trout	c	yl	GA															X O
<i>Oncorhynchus clarki</i>	c	yl	GA															X O
Rainbow Trout	c	yl	GA															X O
<i>Oncorhynchus mykiss</i> spp.	a	yl	GA															X O
Redband Trout	c	yl	GA															X O
<i>Oncorhynchus mykiss</i> spp.	u	yl	GA															X O
Brown Bullhead	c	yl	GA															X O
<i>Ictalurus nebulosus</i>	c	yl	GA															X O
Blue Catfish	c	yl	GA															X O
<i>Ictalurus furcatus</i>	u	yl	GA															X O

## BIRDS

Mallard <i>Anas platyrhynchos</i>	c	yl	GA	X O	X O	X O	X O		0		0
Gadwall <i>Anas strepera</i>	c	yl	GA	O	X	O	X	X	0		0
Pintail <i>Anas acuta</i>	c	yl	GA	O	X	O	X	X	0		0
Green Winged Teal <i>Anas crecca</i>	c	yl	GA	O	X	O	X	X	0		0
Blue Winged Teal <i>Anas discors</i>	u	ms	GA						0		0
Cinnamon Teal <i>Anas cyanoptera</i>	c	ms	GA	X O	X O	X O	X O	X O	0		0
American Widgeon <i>Anas americana</i>	c	yl	GA	O	X	O	X	X	0		0
Shoveler <i>Anas clypeata</i>	u	yl	GA	O	X	O	X	X	0		0
Wood Duck <i>Aix sponsa</i>	c	ms	GA	O	X	O	X	X	0		0
Red Head <i>Aythya americana</i>	u	mw	GA						0		0
Canvasback <i>Aythya valisineria</i>	u	mw	GA						0		0
Ring-necked Duck <i>Aythya collaris</i>	u	mw	GA						0		0
Lesser Scaup <i>Aythya affinis</i>	c	mw	GA						0		0
Common Goldeneye <i>Bucephala clangula</i>	u	mw	GA						0		0

Common Name Scientific Name	1/ R	2/ S	3/ C	VEGETATION ZONE 4/																						
	E	B	E	C	C	I	A	W	S	A	L	M	S	A	T	S	L	G	C	B	M	C	D	Z	A	
	L	U	N	S	O	R	A	T	R	Y	A	W	O	R	T	R	H	A	O	M	G	C	B	A	E	C
	U	N	S	O	R	A	T	R	Y	A	W	O	R	T	R	H	A	O	M	G	C	B	A	E	C	
BIRDS (Cont'd)																										
Bufflehead																										
<i>Bucephala albeola</i>	u	mw	GA																		0			0		
White-winged Scoter																										
<i>Melanitta fusca</i>	c	mw	PN	0																				0		
Ruddy Duck																										
<i>Oxyura jamaicensis</i>	u	ms	GA																					0		
Hooded Merganser																										
<i>Lophodytes cucullatus</i>	u	mw	GA																					0		
Common Merganser																										
<i>Mergus merganser</i>	c	ms	GA		x																			0		
Turkey Vulture																										
<i>Cathartes aura</i>	c	yl	PN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Goshawk																										
<i>Accipiter gentilis</i>	u	m	PN																							
Coopers Hawk																										
<i>Accipiter cooperii</i>	u	yl	PN	0	0																x	0				
Sharp-shinned Hawk																							x			
<i>Accipiter striatus</i>	u	ms	PN	0	0																	x	0			
Red-tailed Hawk																							x			
<i>Buteo jamaicensis</i>	c	yl	PN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	x			
Swainson's Hawk																							x			
<i>Buteo swainsoni</i>	u	mw	PN																		0	0				
Rough-legged Hawk																										
<i>Buteo lagopus</i>	c	mw	PN																		0	0				
Ferruginous Hawk																										
<i>Buteo regalis</i>	u/r	yl	PN																							
Golden Eagle																							x			
<i>Aquila chrysaetos</i>	c	yl	PN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Bald Eagle																										
<i>Haliaeetus leucocephalus</i>	u	mw	PN																							
Northern Harrier																					0	x				
<i>Circus cyaneus</i>	a	yl	PN	0	x																0	0				
Osprey																										
<i>Pandion haliaetus</i>	r	ms	PN																							
Prairie Falcon																										
<i>Falco mexicanus</i>	u	yl	PN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
Peregrine Falcon																										
<i>Falco peregrinus</i>	u	m	PN																							
Gyrfalcon																										
<i>Falco rusticolus</i>	r	w	PN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Merlin																										
<i>Falco columbarius</i>	u	mw	PN	0	0																0					
American Kestrel																					x	x				
<i>Falco sparverius</i>	c	yl	PN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Blue Grouse																					0	0	0			
<i>Dendragapus obscurus</i>	u	yl	GA	0	x																0	0	0			
Sage Grouse																										
<i>Centrocercus urophasianus</i>	c	yl	GA	0	0	0	0	0	0	x										0	0	0				
Columbian Sharp-tailed Grouse																					x	0				
<i>Tympanuchus phasianellus</i>	u	yl	GA	0	0	0	0	0	0	x										0	0	0				
California Quail																					0	0				
<i>Callipepla californica</i>	u	yl	GA	0	0																0	0	0			
Mountain Quail																										
<i>Oreortyx pictus</i>	u	yl	GA	0	x																0	0	0			
Chukar																										
<i>Alectoris grisea</i>	c	yl	GA	0	0																					
Grey Partridge																				x	0	0				
<i>Perdix perdix</i>	c	yl	GA	0	0															x	0	0	0			
Ring-necked Pheasant																										
<i>Phasianus colchicus</i>	c	yl	GA			0														0						
Turkey																										
<i>Meleagris gallopavo</i>	u	yl	GA	0	x																					
Common Loon																										
<i>Gavia immer</i>	u	m	PN																				0			
Horned Grebe																										
<i>Podiceps auritus</i>	u	m	PN																				0			
Eared Grebe																						x				
<i>Podiceps nigricollis</i>	u	yl	PN																		0					

Common Name Scientific Name	1/ R E L A T I V E	2/ S O C A C U N C O F	3/ C L A A I P I N F	VEGETATION ZONE 4/															
	A W T R W I B N R Z G S O B H N E I G	S Y O M E R 8 S A Z G Z G S O E N E B I G	L A M A G L K T B R Z I O N S H E E B I G	A R O A R E O A R L K T R G E B R Z I O N S H E E B I G	T R G E B R Z I O N S H E E B I G	G A P M A E D S I N G L A F L E X F L O W	C R O P L A R R E N F L O W	B A R A V A D O W S	M E A D O W S	C O N I F E R O U S	D E C I D U O U S	Z O N E	A Q U A T I C						
BIRDS (Cont'd)																			
Western Grebe																			X
Aechmophorus occidentalis	c	ms	PN																0
Pied-billed Grebe	u	yl	PN																X
Podilymbus podiceps																			0
White Pelican	u	ms	PN																0
Pelecanus erythrorhynchos	u	ms	PN																0
Double-crested Cormorant	u	s	PN																0
Phalacrocorax auritus	u	ms	PN																0
Great Blue Heron	c	yl	PN	X															X
Andea herodias				0															0
Snowy Egret	u	ms	PN	0															0
Egretta thula	u	ms	PN	0															0
Black-crowned Night Heron				X															0
Nycticorax nycticorax	u	ms	PN	0															0
American Bittern																			0
Botaurus lentiginosus	u	ms	PN	0															0
White-faced Ibis	r	ms	PN	0															0
Plegadis chihi																			0
Trumpeter Swan	r	mw	PN	0															0
Cygnus buccinator																			0
Tundra Swan	u	mw	PN																0
Cygnus columbianus	u	mw	PN																0
Canada Goose	c	yl	GA	X	X	X	X	X											0
Branta canadensis moffitti				0	0	0	0	0											0
Snow Goose																			0
Chen caerulescens	u	m	GA																0
Sand Hill Crane																			X
Grus canadensis	u	ms	PN	0															0
Virginia Rail				X															0
Rallus limicola	u	mw	PN	0															0
Sora Rail				X															0
Porzana carolina	u	mw	PN	0															0
American Coot				X															0
Fulica americana	a	yl	GA	0															0
Semipalmated Plover																			0
Charadrius semipalmatus	u	m	PN	0															0
Killdeer	c	yl	PN	0															0
Charadrius vociferus																			0
Long-billed Curlew				X															0
Numenius americanus	u	ms	PN	0															0
Common Snipe				X															0
Gallinago gallinago	c	ms	GA	0															0
Spotted Sandpiper				X															0
Actitis macularia	r	ms	PN	0															0
Greater Yellowlegs	u	m	PN	0															0
Tringa melanoleuca																			0
Lesser Yellowlegs	u	m	PN	0															0
Tringa flavipes																			0
Willet																			0
Catoptrophorus semipalmatus	c	ms	PN	0															0
Least Sandpiper	c	m	PN	0															0
Calidris minutilla																			0
Long-billed Dowitcher																			0
Limnodromus scolopaceus	u	m	PN	0															0
Western Sandpiper																			0
Calidris mauri	c	m	PN	0															0
Wilson's Phalarope																			0
Phalaropus tricolor	c	ms	PN	0															0
California Gull																			0
Larus californicus	a	mw	PN	0															0
Ringed-billed Gull																			0
Larus delawarensis	a	yl	PN	0															0
Bonaparte's Gull																			0
Larus philadelphia	u/r	m	PN	0															0
Forester's Tern																			0
Sterna forsteri	u	ms	PN	0															0

Common Name Scientific Name	1/ R	2/ S	3/ C	VEGETATION ZONE 4/																	
	A E L A T I V E C E	B E A N O N C O	C C A S S I F F	L A T R I A N I	C L A R M R Z O	R Y T W G U B H	S A R I B R U N S H	A L O U G E Z I N S H	M A R T R A Z O N E	S A R L K T R E Z O N E	T S A R E B R U S O N P H	L C A V P L E X F L O W	G R A E D F L E X S I N G S	C R O P L A N D S	B A R A E N L A V A D O W S	M E A D O W S	C O N I F E R O U S	D E C I D U O U S	A Q U A T I C		
BIRDS (Cont'd)																					
Caspian Tern																					
<i>Sterna caspia</i>	u	ms	PN	o																	0
Black Tern																					
<i>Chlidonias niger</i>	u	w	PN	o																	0
Rock Dove																					
<i>Columba livia</i>	a	yl	UN	o																0	
Mourning Dove																				x	
<i>Zenaida macroura</i>	c	yl	GA	o	o													o	o	0	
Barn Owl																					
<i>Tyto alba</i>	u	ms	PN	o																0	
Screech Owl																					
<i>Otus kennicottii</i>	u	yl	PN	o																0	
Great Horned Owl																				x	
<i>Bubo virginianus</i>	u	yl	PN	o	o													o	o	0	
Western Burrowing Owl																		x	x	x	
<i>Athene cunicularia</i>	c	yl	PN		o													0	0	0	
Great Grey Owl																					
<i>Strix nebulosa</i>	r	yl	PN																	0	
Long-eared Owl																				x	
<i>Asio otus</i>	u	yl	PN	o															0	0	
Short-eared Owl																		x	0	x	
<i>Asio flammeus</i>	c	yl	PN	o														0	0	0	
Northern Saw-whet Owl																			x	x	
<i>Aegolius acadicus</i>	u	yl	PN	o														0	0	0	
Northern Pygmy Owl																			x	x	
<i>Glaucidium gnoma</i>	u	yl	PN	o														0	0	0	
Poor Will																					
<i>Phalaenoptilus nuttallii</i>	u	ms	PN	o	o													0	0	0	
Common Night Hawk																					
<i>Chordeiles minor</i>	c	ms	PN	o														0	0	0	
Broad-tailed Hummingbird																					
<i>Selasphorus platycercus</i>	u	ms	PN	o																0	
Rufous Hummingbird																					
<i>Salasphorus rufus</i>	u	m	PN	o																0	
Black-chinned Hummingbird																					
<i>Archilochus alexandri</i>	u	m	PN	o	o															0	
Calliope Hummingbird																					
<i>Stellula calliope</i>	u	ms	PN	o																0	
Belted Kingfisher																					
<i>Ceryle alcyon</i>	u	ms	PN	o																0	
Bohemian Waxwing																					
<i>Bombycilla garrulus</i>	u	w	PN	o														0	0	0	
Cedar Waxwing																					
<i>Bombycilla cedarorum</i>	u	w	PN	o														0	0	0	
Common Flicker																				x	
<i>Colaptes auratus</i>	c	yl	PN	o														0	0	0	
Lewis Woodpecker																				x	
<i>Melanerpes lewis</i>	u	ms	PN	o														0	0	0	
Yellow-bellied Sapsucker																					
<i>Sphyrapicus varius</i>	u	ms	PN	o																0	
Hairy Woodpecker																					
<i>Picoides villosus</i>	u	yl	PN	o																0	
Downy Woodpecker																					
<i>Picoides pubescens</i>	u	yl	PN	o																0	
Western Kingbird																					
<i>Tyrannus verticalis</i>	c	ms	PN	o														0	0	0	
Eastern Kingbird																					
<i>Tyrannus tyrannus</i>	c	ms	PN	o														0	0	0	
Horned Lark																					
<i>Eremophila alpestris</i>	a	yl	PN	o	x	x	o	o		x	o	o	o	o	o	o	o	o	o	o	o
Violet-green Swallow																					
<i>Tachycineta thalassina</i>	u	ms	PN	o														0	0	0	
Tree Swallow																					
<i>Tachycineta bicolor</i>	c	ms	PN	o																	
Rough-winged Swallow																					
<i>Stelgidopteryx serripennis</i>	c	ms	PN	o																	
Bank Swallow																					
<i>Riparia riparia</i>	c	ms	PN	o																	

Common Name Scientific Name	1/ R	2/ S	3/ C	VEGETATION ZONE 4/																												
	E	B	E	C	L	C	R	A	W	S	A	L	A	M	S	A	A	T	S	L	C	G	S	C	B	L	M	C	D	Z		
	E	E	E	A	C	A	I	R	Y	A	R	O	R	O	A	R	A	R	H	S	L	G	R	E	C	B	A	M	E	A	D	Q
BIRDS (Cont'd)																																
Barn Swallow <i>Hirundo rustica</i>	c	ms	pn	x																								0				
Cliff Swallow <i>Hirundo pyrrhonota</i>	c	ms	pn	x														x									0					
Steller's Jay <i>Cyanocitta stelleri</i>	u	yl	pn																									0				
Black-billed Magpie <i>Pica pica</i>	a	yl	pn	x				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	x			
Common Raven <i>Corvus corax</i>	a	yl	pn	x				0	0		0			0		0	0	0	0	0	0	0	0	0	0	0	0	0	0			
American Crow <i>Corvus brachyrhynchos</i>	c	yl	ga	x				0	0		0			0		0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Black-capped Chickadee <i>Parus atricapillus</i>	c	yl	pn	x				0																			0					
Plain Titmouse <i>Parus inornatus</i>	u	yl	pn	x				0																			0					
Bushtit <i>Psaltriparus minimus</i>	u	yl	pn	x				0																			0					
Red-breasted Nuthatch <i>Sitta canadensis</i>	c	yl	pn	x				0																			x					
Brown Creeper <i>Certhia americana</i>	u	yl	pn	x				0																			0					
Dipper <i>Cinclus mexicanus</i>	u	yl	pn	x				0																			0					
House Wren <i>Troglodytes aedon</i>	c	ms	pn	x				0											x	0							0					
Canyon Wren <i>Catherpes mexicanus</i>	c	yl	pn	x				0											0								0					
Rock Wren <i>Salpinctes obsoletus</i>	c	yl	pn	x				0										x	0								0					
Marsh Wren <i>Cistothorus palustris</i>	c	yl	pn	x				0										x	0								0					
Sage Thrasher <i>Oreoscoptes montanus</i>	u	ms	pn	x				0	0		0						x	0								0						
Robin <i>Turdus migratorius</i>	c	yl	pn	x				0												0							x					
Mountain Bluebird <i>Sialia currucoides</i>	u	ms	pn	x				0													0						x					
Blue-gray Gnatcatcher <i>Polioptila caerulea</i>	u	ms	pn	x				0																			x					
Townsend's Solitaire <i>Myadestes townsendi</i>	u	yl	pn	x				0																			x					
American Avocet <i>Recurvirostra americana</i>	c	mw	pn	x				0																			0					
Northern Oriole <i>Icterus galbula</i>	c	ms	pn	x				0																			0					
Loggerhead Shrike <i>Lanius ludovicianus</i>	c	ms	pn	x				0	0		0					0			0	0					0							
Starling <i>Sturnus vulgaris</i>	c	yl	un	x				0										x	0								x					
Warbling Vireo <i>Vireo gilvus</i>	c	ms	pn	x				0																			0					
Yellow Warbler <i>Dendroica petechia</i>	c	ms	pn	x				0																			0					
Yellow-rumped Warbler <i>Dendroica coronata</i>	c	ms	pn	x				0																			0					
Wilson's Warbler <i>Wilsonia pusilla</i>	c	ms	pn	x				0																			0					
Yellow-breasted Chat <i>Icteria virens</i>	c	ms	pn	x				0																			0					
American Redstart <i>Setophaga ruticilla</i>	c	ms	pn	x				0																			0					
House Sparrow <i>Passer domesticus</i>	c	yl	un	x				0											0	0							0					
Western Meadowlark <i>Sturnella neglecta</i>	a	ms	pn	x				0	0		0				0		0	0	0	0						x						
Yellow-headed Blackbird <i>Xanthocephalus xanthocephalus</i>	u	ms	pn	x				0											0								0					

1/ a = Abundant: Observed every time a person visits its habitat at the proper season.

**e = Common:** Observed most of the time when a person visits habitat at the appropriate season.

**u** = Uneommon: Not observed regularly in its habitat; habitat may be limited.

r = Rare; Rarely observed. Species occupies a small percentage of its preferred habitat or habitat is extremely limited.

2/ Season of Occurrence: yl = yearlong; m = migrant; s = summer; w = winter

3/ Classification as defined by the Idaho Department of Fish and Game:

GA = Game Animal; FB = Furbearer; PE = Predatory

Animal; PN = Protected Non-game; UN - Unprotected Non-game

4/ X = Reproduction; O = Feeding



# Appendix D: Wild & Scenic Rivers Suitability Study Report

## Dry Creek King Hill Creek Big Wood River

### Introduction

This report is a record of the Wild and Scenic River (W&SR) study process associated with the Resource Management Plan (RMP) prepared for the Bennett Hills Resource Area, Shoshone District Bureau of Land Management (BLM). This report is not meant to be an environmental impact analysis, but an examination of river and stream segments in relationship to the W&SR eligibility, classification, and suitability criteria.

As part of the Bennett Hills RMP, all river and stream segments were initially evaluated for potential inclusion in the W&SR system. The evaluation was narrowed to 25 rivers, streams, and river/stream segments on or adjacent to land administered by the BLM for further consideration. Table D-1 lists those rivers/streams evaluated and the eligibility determinations. Nine segments were identified as eligible.

Suitability evaluations for the four eligible segments of the Snake River and two tributaries (Vineyard Lake and Box Canyon) have been deferred to allow adequate coordination with all agencies, groups and individuals affected by a W&SR decision. Suitability evaluations for the remaining eligible streams and rivers (Dry Creek, King Hill Creek and the Big Wood River) are part of the Bennett Hills RMP. This document provides eligibility determinations, classifications, and suitability analyses for Dry Creek, King Hill Creek, and the Big Wood River.

This section discusses the legislative requirements for studying rivers and streams, roles and authority, study boundaries, and the study process. The rest of this report describes the affected environment,

including a description of land uses and resources, eligibility, classification, and suitability of streams and rivers with conclusions and recommendations.

### Legislative Requirements

The purpose of the 1968 *Wild and Scenic Rivers Act* (Public Law 90-452), as stated in Section 1(b), is:

It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, and other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national preservation purposes.

The *Wild and Scenic Rivers Act* (Section 5(d)(1)) further directs that:

In all planning for the use and development of water and related land resources, consideration shall be given by all Federal agencies involved to potential national wild, scenic, and recreational river areas, and all river basin and project plan reports submitted to Congress shall consider and discuss any such potentials. The Secretary of the Interior and the Secretary of Agriculture shall make specific studies and investigations to determine which additional wild, scenic, and recreational river areas within the United States shall be evaluated in planning reports by all Federal agencies as potential alternative uses of the water and related land resources involved.

**TABLE D-1**  
**Eligibility Determinations for**  
**Study Rivers and Streams**

Eligible:

Big Wood River (Fossil Canyon)  
 Box Canyon (Entire Length)  
 Dry Creek (Within WSA)  
 King Hill Creek  
 Snake River  
 - Hagerman Section  
 - King Hill Section  
 - Milner Section  
 - Murtaugh Section  
 Vineyard Lake

Ineligible (includes all tributaries)

Big Wood River (all other sections below Magic Dam)  
 Burnt Willow Creek  
 Camas Creek  
 Clover Creek  
 Devil's Corral Creek  
 Dry Creek (Outside WSA)  
 Ear Creek  
 Little Wood River (within Bennett Hills RA)  
 Malad River  
 South Fork Lime Creek  
 Snake River Sections  
 - Twin Falls Reservoir  
 - Twin Falls Dam to Shoshone Falls Dam  
 - Shoshone Falls Dam to Upper Salmon Falls Dam  
 - Upper Salmon Falls Dam to Lower Salmon Falls Dam  
 - Bliss Reservoir

=====

BLM resource management planning direction (BLM Manual 1623) states the agency should "...identify areas which may warrant recognition as National Wild and Scenic Rivers,...".

**Roles and Authorities**

The BLM study group completed this report using the following authorizations and references:

*The Wild and Scenic Rivers Act (PL 90-542, with amendments)*  
 The 1970 USDA/USDI List  
 The Nationwide Rivers Inventory

The Final Revised USDI-USDA Guidelines for Eligibility, Classification, and Management of River Areas of September 1982  
 BLM Manuals 8351 and 1623

**Study Boundary**

The Bennett Hills Resource Area is located in the Shoshone District in south-central Idaho and encompasses approximately 1,025 square miles (649,786 acres). The Bennett Hills Resource Area has three distinct geographic areas; dry mountainous canyons of the Bennett Hills, the high desert Snake River Plain area, and the Snake River Canyon area.

A more complete and detailed description of the Bennett Hills Resources Area is available in Chapter 3 (Affected Environment) of the Draft Bennett Hills RMP/Draft EIS.

**Wild and Scenic River Process**

*The Wild and Scenic Rivers Act* established national policy to preserve selected rivers and their immediate environments which possess "outstandingly remarkable values" for present and future generations. The Act further established the National Wild and Scenic Rivers System (NW&SRS) and named eight rivers to be included as initial components of the system.

Many additional rivers have since been included in the system. A river under consideration for inclusion into the NW&SRS must go through a three step process before it is considered for Congressional designation. These steps include eligibility, classification, and suitability. A river can be *eligible* for inclusion in the system only if it is free-flowing and possesses one or more outstandingly remarkable values in the following categories: scenic, recreational, geologic, fish, wildlife, historic, cultural, or other similar values. Rivers meeting these criteria are then tentatively *classified* into one of three categories based on classification criteria:

1. Wild - unpolluted, free-flowing rivers with surroundings essentially undisturbed by man and accessible only by trail.

2. Scenic - rivers with no impoundments, largely undeveloped shorelines or watersheds, but accessible by roads in places.
3. Recreational - readily accessible by roads or railroads, that may have some shoreline developments, and may have been impounded or diverted in the past.

The three classes listed are in order of decreasing pristine conditions.

At the time a river stretch is determined eligible, appropriate measures are initiated to provide interim protection for the river segment. Next, the river is evaluated for its *suitability* for inclusion in the NW&SRS. Then, the positive and negative aspects (i.e. social, environmental, economic, etc.) of the river's inclusion into the system are weighed against each other. Suitable river segments are then forwarded to Congress for consideration. Once a river is designated by Congress, it is officially part of the National Wild and Scenic Rivers System.

### Bennett Hills River Study Process

The study process for W&SR evaluations is closely associated with the Bennett Hills RMP planning process. At the time the W&SR study was initiated, a draft manual was out for review. Guidance from the BLM Washington Office and the Idaho State Office has continued to evolve throughout the study process. A final manual was released May 19, 1992.

**Scoping:** The Bennett Hills Resource Area has encouraged public feedback on the eligibility/suitability evaluations for potential rivers. This was done primarily through the scoping and public input opportunities associated with the RMP. Wild and Scenic Rivers were identified in the Notice of Intent for the RMP, and in subsequent scoping and public involvement sessions (District Advisory Council and Grazing Board, RMP public meetings, news releases, and a television news story). Letters were sent to interest groups before the inventory and after eligibility determinations to seek input and feedback.

**Inventory Summary:** Initial inventory of rivers and streams began by searching for their inclusion in inventories conducted by other groups or agencies identifying rivers having significant or outstanding features. A list of resources consulted follows:

1. Middle Snake River Reach Component of the Comprehensive State Water Plan; (Idaho Water Resources Board),
2. Outstanding Rivers List (Idaho); (American Rivers Inc.),
3. Nationwide Rivers Inventory; (National Park Service),
4. Idaho River Information System; (Idaho Department of Fish and Game),
5. Idaho Rivers United,
6. and the State Comprehensive Outdoor Recreation Plan; (Idaho Department of Parks and Recreation).

Some river/stream segments were immediately determined ineligible because they are not free-flowing (e.g. reservoirs). For the remaining segments, maps were consulted to determine distances and land ownership along the river/stream. Since federal protective measures only apply to land administered by the BLM, river segments were not evaluated for eligibility where BLM-administered land represented a very small percent of the river corridor if outstandingly remarkable values were not obvious or recognized by outside sources. Several exceptions were made to this where BLM administers recreational use of a river or outstanding values were already recognized.

Next, resource area and district specialists, and the local interested public were consulted to identify scenic, recreational, geologic, fish, wildlife, prehistoric/historic/cultural, or other resource values. Features judged to be significant were noted. These features were then evaluated as to whether or not they were outstandingly remarkable.

Finally, an on-site inventory was conducted. This included driving to accessible sites, and hiking and/or floating less accessible sites. River features were documented both on paper and on film.

## Study Process

Once eligibility determinations were made, each eligible segment was evaluated and given a tentative classification as either wild, scenic, or recreational.

Evaluation forms were completed and circulated within the Shoshone District for interdisciplinary input and review. Eligibility determinations for all major drainages in the district were presented at a management briefing.

Coordination occurred with the Burley District, Snake River Resource Area and the Boise District, Jarbidge Resource Area pertaining to the Snake River and King Hill Creek, respectively.

**Public Involvement Summary:** Following is a list of occasions when public input was solicited.

1. Letters were sent to identified interest groups to help develop a methodology for applying decision criteria.
2. Letters were sent informing interest groups of the final methodology to be used.
3. RMP news releases and public meetings.
4. Notice of Intent in the *Federal Register* which included Wild and Scenic Rivers.
5. Public meetings for the RMP for the identification of issues and planning criteria.
6. News release and letter to interested groups informing them of the preliminary eligibility determinations.
7. Eligibility determinations were presented to the District Advisory Council and the Grazing Advisory Board.
8. Correspondence and meetings with affected hydropower interests.

The public input regarding wild and scenic rivers has been minimal. American Rivers and Idaho Rivers United identified the Big Wood River as having unique features that warranted Wild and Scenic River consideration. No outside sources identified King Hill Creek or Dry Creek as having unique features that warranted Wild and Scenic River consideration during the inventory. However, the Committee for Idaho's High Desert does have King Hill Creek identified as a potential Wild and Scenic River in a legislative bill they have proposed.

Documentation of public involvement (including a list of interested groups which were sent correspondence) and comments are on file in the Shoshone District Office.

Based on the "Guidelines for Fulfilling Requirements" of the *Wild and Scenic Rivers Act*, this assessment will continue as a regular part of the BLM planning process. This process will include the publication and public distribution of the Bennett Hills Draft RMP/EIS and the Bennett Hills Proposed RMP/Final EIS. This provides the opportunity for the public, who have been involved throughout the planning process, to protest to the BLM Director, the Wild and Scenic River recommendations.

## Affected Environment/Current Situation

This section describes the legal description, the general physiographic environment of the identified river corridors and the surrounding area, general land ownership, and various land uses within the river corridors.

## Resource Descriptions

Dry Creek, King Hill Creek, and the Big Wood River have been divided into several segments for analysis. These divisions are based on land ownership patterns, special area designations, and identified significant features. Dry Creek and the Big Wood River are divided into three segments, and King Hill Creek is divided into two segments. Maps D-1, D-2, D-3.1, D-3.2, and D-3.3 show each identified river/stream segment.

**Dry Creek:** Segment 1 of Dry Creek is identified as a 4.6 river mile segment from the north edge of T.3 S., R.14 E., Section 21, to just above the diversion structure at the confluence with Coyote Creek (T.4 S., R.14 E. Section 6 (Map D-1). No tributaries are identified. The identified stream corridor encompasses  $\frac{1}{4}$  mile on each side of Dry Creek. There are no developed recreation sites along the identified segment. The entire river segment is within the East Gooding City of Rocks Wilderness

Study Area (ID-54-8A) and is in a primitive, natural state.

Dry Creek has incised a canyon into the south-facing front of the Bennett Hills. The Bennett Hills are an east-west mountainous area lying along the northern edge of the Snake River Plain. The canyon is narrow, being less than one half mile from rim to rim at the widest point, and approaches a depth of 500 feet in places. The rock through which the Dry Creek canyon was cut is comprised of rhyolite flows, volcanic tuffs and some basalt flows.

Very little sign of development is visible along the creek and canyon. Access to the canyon is by foot on game trails. Vehicle access is very limited throughout the area.

This segment of Dry Creek has been identified and proposed as an Area of Critical Environmental Concern (ACEC) in the Bennett Hills Draft RMP. This decision would require an amendment to a current allotment management plan to exclude livestock from the drainage and implement a vegetation monitoring system. The proposed ACEC designation is identified in Alternatives B, C, and D of the draft RMP.

Segment 2 of Dry Creek is identified as a 5.3 river mile stretch from just above the diversion structure at the confluence with Coyote Creek (T. 4 S., R.14 E. Section 6) downstream to the north edge of the private property boundary in T.4 S., R.14 E., Section 28. The identified stream corridor encompasses  $\frac{1}{4}$  mile on each side of Dry Creek. There are no developed recreation sites along the identified segment. This section of Dry Creek is not within any special designation area.

This portion of Dry Creek crosses the level, gently sloping uplands extending from the Bennett Hills onto the Snake River Plain. Dry Creek has incised a canyon increasing from 20 feet in depth at the upper end to 250 feet toward the lower portion. This portion of the stream is very similar to numerous other drainages in the Bennett Hills Resource Area and there were no outstandingly remarkable values identified in this segment.

Signs of development are present along this portion of the creek but are not numerous. The most prominent structure is a water diversion and associated canal system. Several dirt roads are found along this portion and cross Dry Creek at three locations.

Segment 3 of Dry Creek is identified as a 7.6 river mile stretch from the north edge of the private property boundary in T.4 S., R.14 E., Section 28 to the confluence with the Big Wood River (T.5 S., R.14 E., Section 22). The identified stream corridor encompasses  $\frac{1}{4}$  mile on each side of Dry Creek. There are no developed recreation sites along the identified segment. This section of Dry Creek is not within any special designation area. Segment 3 is almost entirely (99 percent) on private property, with only one percent of the identified river corridor on BLM-administered land.

This section of Dry Creek flows across farm land on the north end of the Snake River Plain. Along this section there are several sites where water is diverted into canals for irrigation purposes. The stream bed has undergone slight modifications at several locations. Signs of human development are numerous along this section of the stream. Dry Creek is paralleled by a road for a short distance and is crossed by different roads at six locations. Farm houses, out buildings, and other agricultural structures are common sights. Due to the high percentage of private land, legal access to this section is very limited.

**King Hill Creek:** Segment 1 of King Hill Creek is identified as a 10.0 river mile segment from the west edge of T.3 S., R.11 E., Section 18, downstream to the west edge of T.4 S., R.11 E., Section 19 (Table D-2). No tributaries are identified. The identified stream corridor encompasses  $\frac{1}{4}$  mile on each side of King Hill Creek. There are no developed recreation sites along the identified segment. The majority of the river segment is within the King Hill Creek Wilderness Study Area (ID-19-2) and is in a primitive state. The only sign of development is a power line crossing which is visible only along the very lower portion of the canyon. Access to the canyon is by foot only with no established trails. Vehicle access (a very rough four-

## Resource Descriptions

wheel-drive road) provides access within  $\frac{1}{4}$  mile of the canyon rim.

The canyon formed by King Hill Creek has the appearance of a "big river" canyon much like the Snake River canyon. The upper canyon from rim to creek averages 250 feet while the lower portion averages over 500 feet deep. The canyon is characterized by steep upper walls with large basalt talus slopes along the lower portion of the walls.

Segment 2 of King Hill Creek is identified as a 7.0 river mile segment from the east edge of T.3 S., R.10 E., Section 24 downstream to the confluence with the Snake River (T.5 S., R.10 E., Section 14). No tributaries are identified. The identified stream corridor encompasses  $\frac{1}{4}$  mile on each side of King Hill Creek. There are no developed recreation sites along the identified segment. The majority of this segment (71 percent) is privately owned.

This section of King Hill Creek flows across farmland on the north edge of the Snake River Plain. Along this section there are several sites where water is diverted into canals for irrigation purposes. The stream bed has undergone slight modifications at several locations. Signs of human development are also numerous along this section. King Hill Creek is paralleled by a road for almost the entire length and is crossed at two locations by roads, and at one location by a railroad. Farm houses, outbuildings, and other agricultural structures are common. Due to the high percentage of private land, legal access to many portions of this section is limited.

**Big Wood River:** Segment 1 of the Big Wood River is identified as a 2.1 river mile segment from the north edge of T.3 S., R.18 E., Section 4, downstream to the north edge of the private property line in T.3 S., R. 18 E., Section 9 (Maps D-3.1, D-3.2, D-3.3). No tributaries are identified. There are no developed recreation sites along the identified segment. The identified river corridor encompasses  $\frac{1}{4}$  mile on each side of the Big Wood River. This section of the Big Wood River is not within any special designation area.

This section has recently become known locally as "fossil canyon". The geologic features of volcanism

and erosion have combined to form an intricately carved basalt river canyon. This canyon ranges in depth from 5 to 40 feet and is as narrow as six feet across at places. Segment 1 is located approximately three miles below Magic Dam and Reservoir (T. 3 S., R. 18 E., Sections 3, 9, 10), an irrigation impoundment on the Big Wood River. Water is only present in this section of the river during irrigation releases. The majority of the sculptured rocks and scenic quality is visible only after the river water has been diverted and exposes these qualities.

Segment 2 is identified as a 5.3 river mile segment from Magic Dam (T.2 S., R.18 E., Section 18) downstream to the private property line on the south edge of T.2 S., R.18 E., Section 33. No tributaries are identified. There is one developed recreation site along the identified segment located at the Richfield Diversion. A mountain bike trail passes through a small portion of the river corridor. The identified river corridor encompasses  $\frac{1}{4}$  mile on each side of the Big Wood River. This section is not within any special designation area.

Below Magic Dam, the Big Wood River flows across the desert through a canyon characterized by large basalt talus slopes. Water is present in this portion of the river primarily during irrigation releases from Magic Dam in the spring and summer. Springs provide a minimal flow during the winter. During irrigation releases the majority of the water is diverted into the Richfield Canal system approximately three miles below Magic Dam. Access along this segment is facilitated by several parallel roads.

Segment 3 is identified as a 51 river mile segment from the north edge of the private property line in T.3 S., R.18 E., Section 9 downstream to the confluence with the Little Wood River to form the Malad River (T. 5 S., R. 14 E., Section 33). No tributaries are identified. There are no developed recreation sites along the identified segment. The identified stream corridor encompasses  $\frac{1}{4}$  mile on each side of the Big Wood River. This section of the Big Wood River forms a portion of the west boundary of the Lava Wilderness Study Area (ID-56-2), and further downstream forms portions of the

north boundary of the Shoshone Wilderness Study Area (ID-59-7).

This section flows primarily (84 percent) across private land. Numerous water diversions along this segment remove water during the irrigation releases. The stream bed and channel have undergone modifications at numerous locations to facilitate irrigation purposes.

The river is readily accessible in many locations due to roads. State Highways 75 and 46 cross the Big Wood River north of Shoshone and Gooding respectively. Houses, farms, power lines, and many other signs of development are present along the majority of this segment.



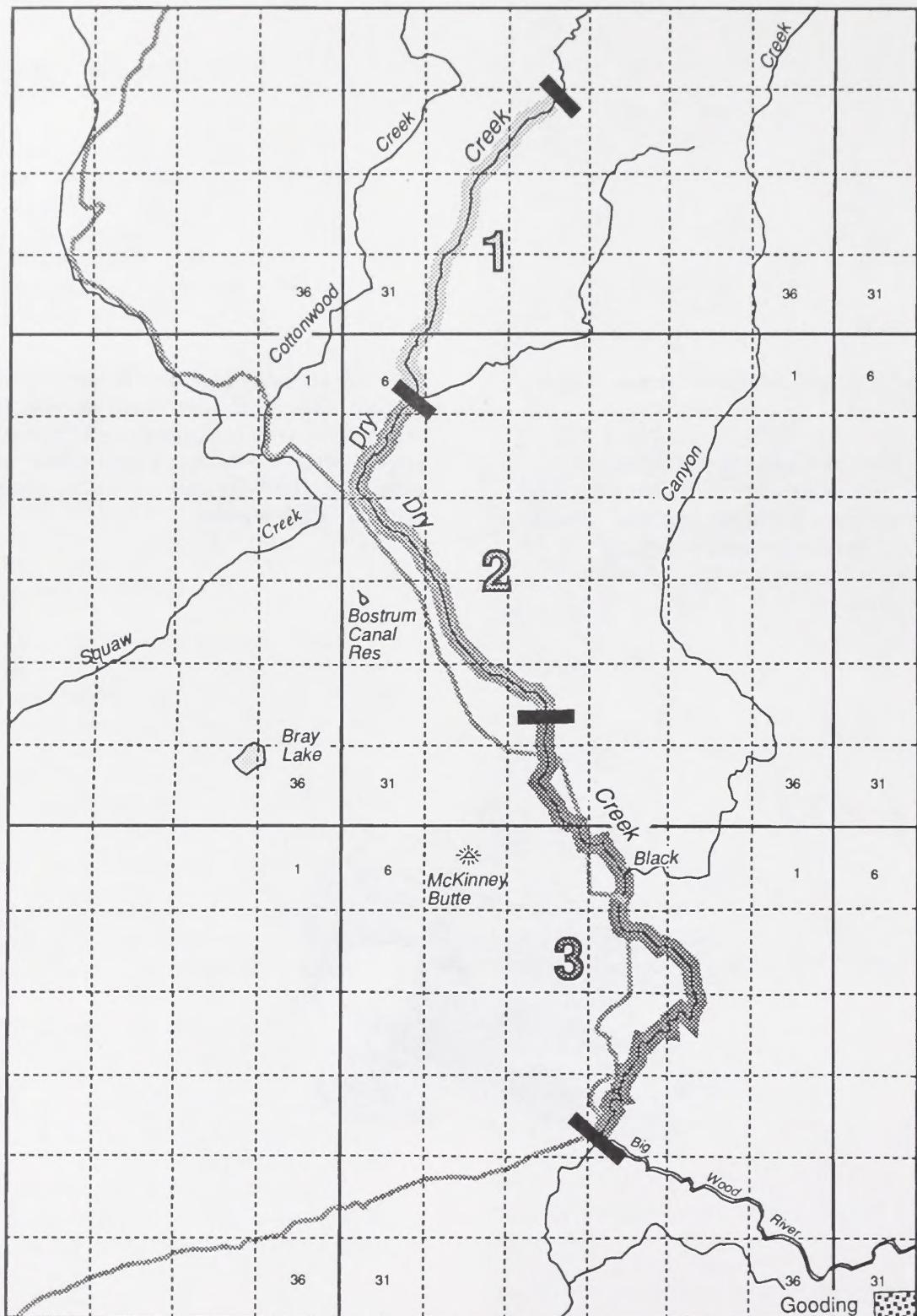
R. 13 E.

R. 14 E.

T.  
3  
S.

T.  
4  
S.

T.  
5  
S.



## Dry Creek

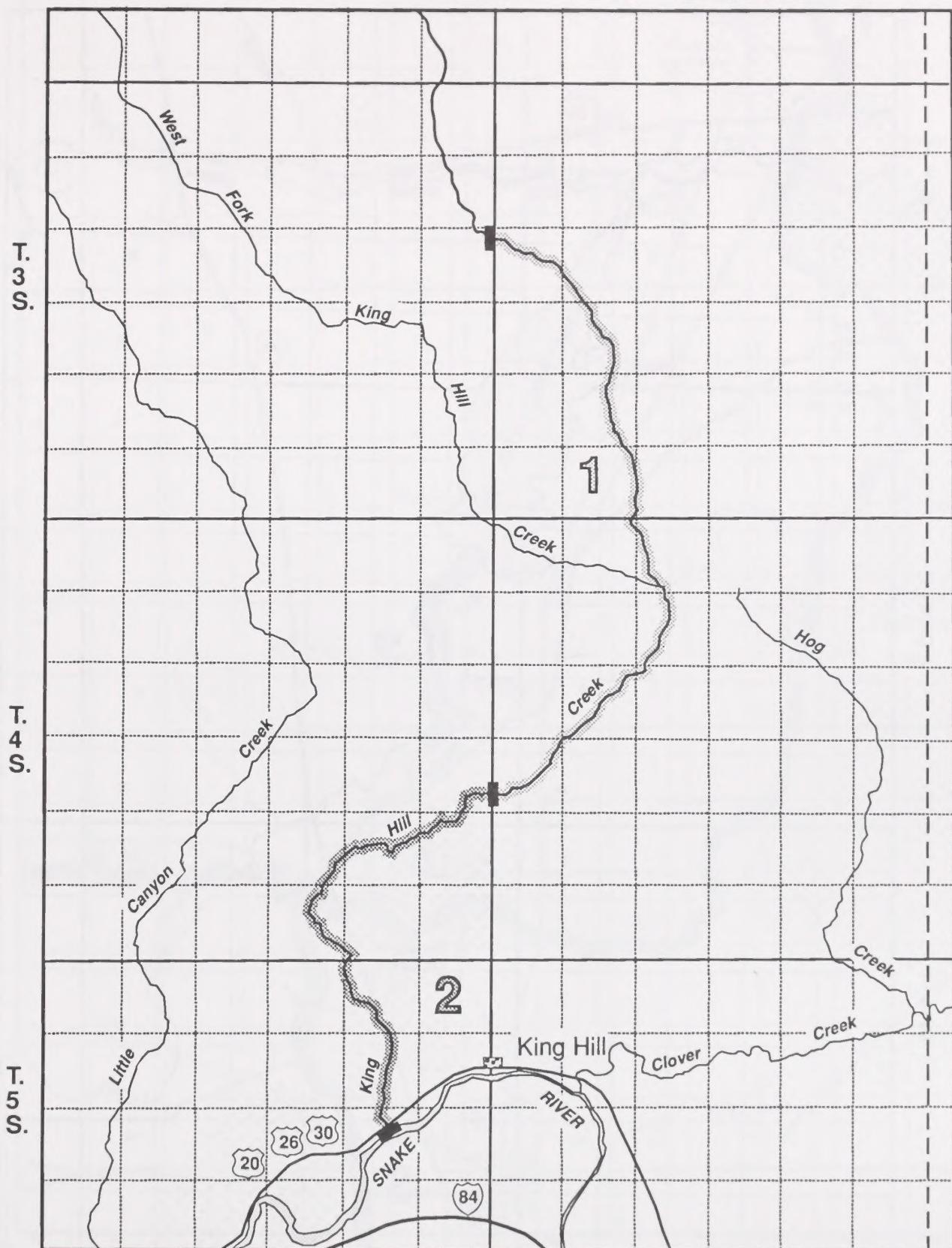
Segment 1

Segment 2

Segment 3

R. 10 E.

R. 11 E.



## King Hill Creek

Segment 1



Segment 2

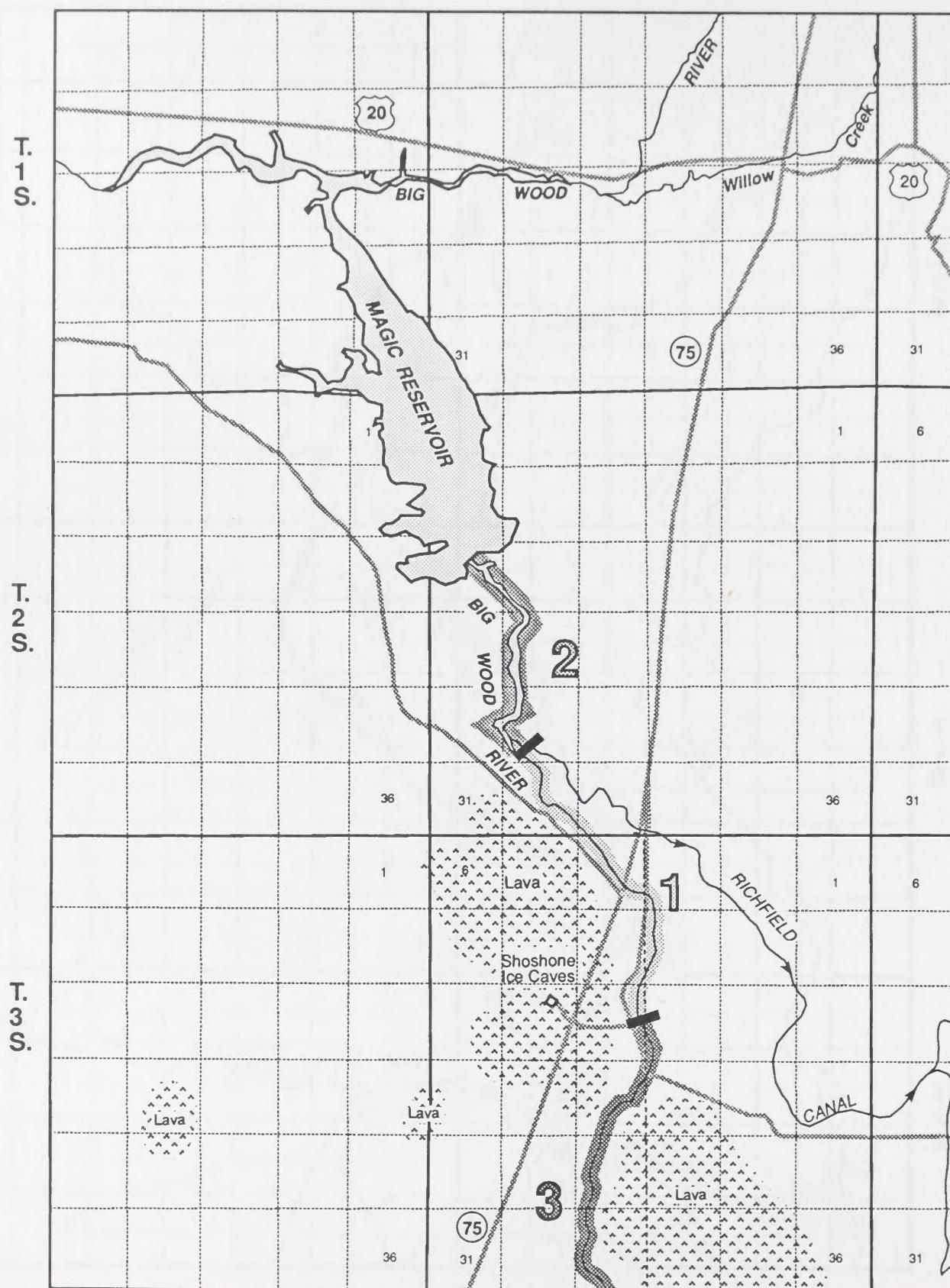


Segment 3



R. 17 E.

R. 18 E.



## Big Wood River

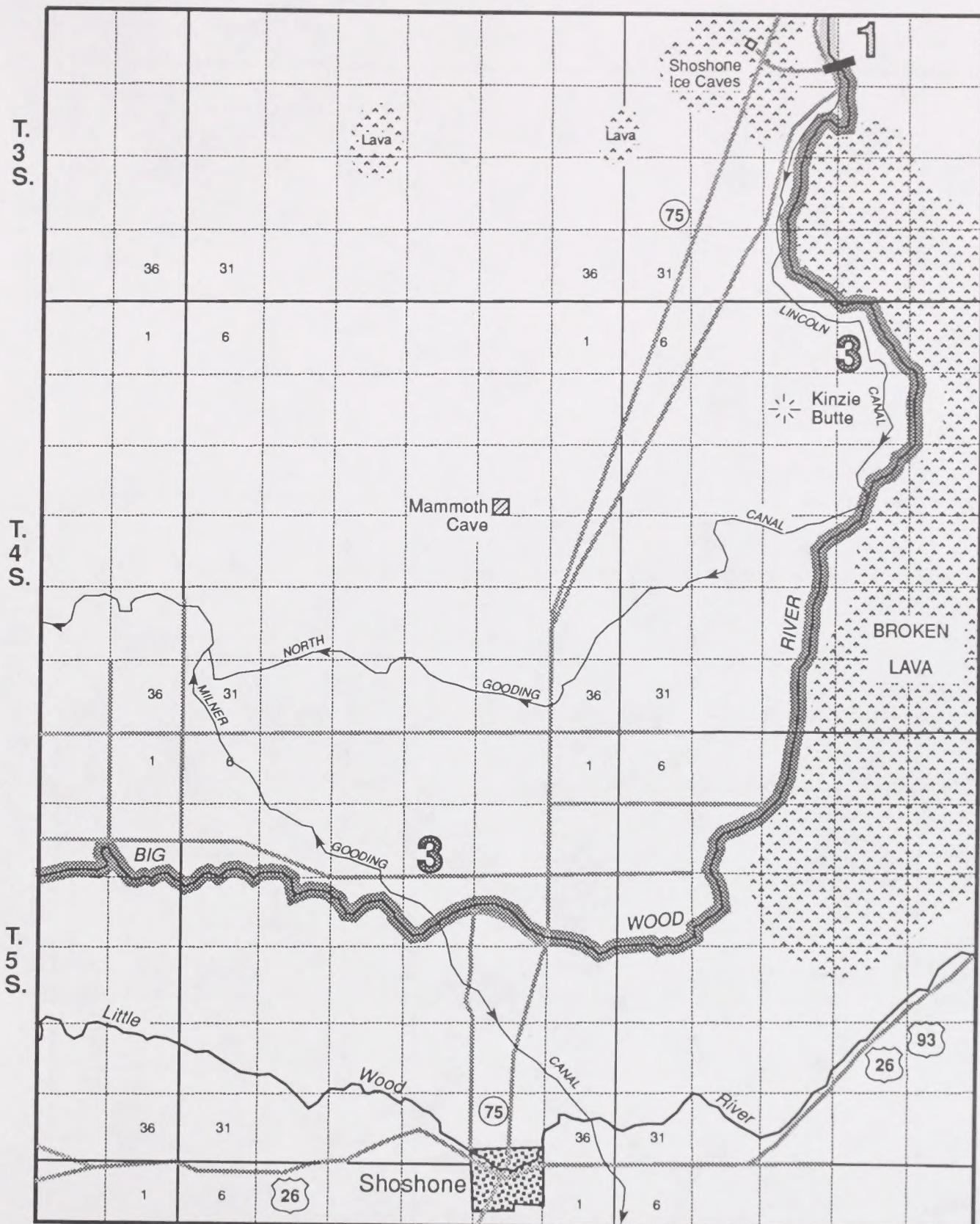
Segment 1

Segment 2

Segment 3

R. 17 E.

R. 18 E.

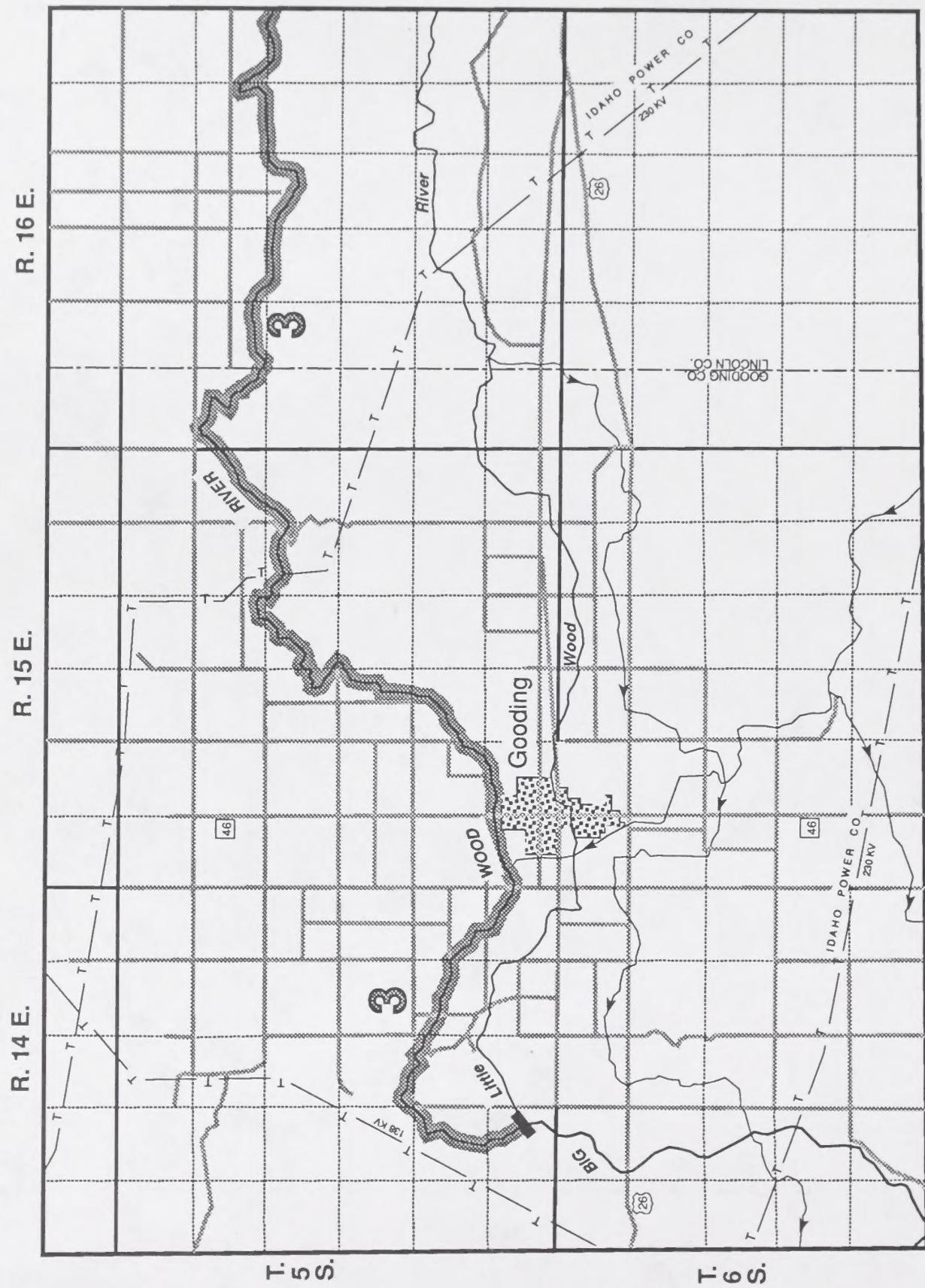


## Big Wood River

Segment 1

Segment 2

Segment 3



## Big Wood River

Segment 1  NONE

Segment 2  NONE

Segment 3  Stippled

D-3.3

## Land Uses

Please refer to the suitability section for a complete description of land uses.

**Dry Creek:** Segment 1 of Dry Creek is within the Black Canyon Allotment. Segment 2 is within portions of the Davis Mountain and Black Canyon Allotments. Segment 3 is within only a small portion (1 percent) of the Black Canyon Allotment.

**King Hill Creek:** Segments 1 and 2 form the boundary of the King Hill Allotment on the east side of the creek. The west side of the creek is in the Boise District and forms the boundary of three allotments (Hammett No.1, King Hill Canyon, and Sugarbowl).

**Big Wood River:** Segment 1 forms the boundary between two pair of allotments; North Shoshone and Lower Magic Allotments, and North Shoshone and Track Allotments. A community pit for sand and gravel is located within the identified river corridor on the south side of the river just upstream from the Highway 75 crossing.

Segment 2 forms the boundary between the Magic and Spillway Allotments. Segment 3 forms the boundary for two pair of allotments (North Shoshone and Track, and Lava and Rags-to-Riches) and passes through or borders several other allotments (Lava, Big Wood, and Rock Flat).

## Eligibility Determinations

*The Wild and Scenic Rivers Act* states that to be considered for inclusion in the National Wild and Scenic Rivers System a river or river segment must be free-flowing and, with its immediate environment, must possess one or more outstandingly remarkable scenic, recreational, geologic, fish, wildlife, historic, cultural, or other similar values.

This section discusses the definition of free-flowing and whether or not these riversstreams meet that definition; BLM criteria for assessing outstandingly remarkable values; and the outstandingly remarkable values present along each identified river corridor.

As mentioned in the study process (Introduction), the Shoshone District deemed river segments ineligible if BLM-administered land represented a very small percent of the river corridor when outstandingly remarkable values were not obvious. Two river segments were deemed ineligible based on this decision; Segment 3 of Dry Creek and Segment 2 of King Hill Creek. Both of these segments are predominantly privately owned and no river related values were determined to be outstandingly remarkable. Since these two segments are ineligible, they will not be evaluated further in this document.

## Free-Flowing

Section 16(b) of the *Wild and Scenic Rivers Act*, as amended, defines free-flowing as "...existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or modification of the waterway. The existence, however, of low dams, diversion works, and other minor structures at the time any river is proposed for inclusion ...shall not automatically bar its consideration...". Free-flowing should not be confused with naturally flowing, which is flowing without any upstream manipulation except by nature.

Further, the BLM Guidelines for Eligibility, Classification and Management of River Areas in the National Wild and Scenic Rivers System (Fed. Reg. 47(173) Sept. 1982) states "[t]he fact that a river segment may flow between large impoundments will not necessarily preclude its designation." These guidelines also state "[t]here are no specific requirements concerning the length or the flow of an eligible river segment."

There are many river segments in the NW&SRS which lie above or below major impoundments, such as the Missouri River in Montana and the Rogue River in Oregon. Some components of the system, such as the Deschutes and Snake Rivers in Idaho/Oregon and the Trinity River in California, even derive their recreational values, at least in part, from the operation of upstream dams.

**Dry Creek:** Segment 1. Within this portion of Dry Creek there are no modifications, impoundments, diversions, or straightening to the waterway.

## Eligibility Determinations

Segment 1 is spring feed upstream and flows year round. It was determined that this segment meets the definitions of "free-flowing".

Segment 2. Modifications to the stream channel have occurred within this waterway. Therefore, it was determined that segment 2 does not meet the definition of "free-flowing" in the Wild & Scenic Rivers Act. Because this segment is not free-flowing, it does not meet the eligibility requirements in section 2(b) of the Act for inclusion in the NW&SRS.

**King Hill Creek:** Segment 1. Within this portion of King Hill Creek there are no modifications or diversions to the waterway. Segment 1 is spring feed upstream and flows year round. It was determined that this segment meets the definitions of "free-flowing".

**Big Wood River:** Segment 1. Within this portion of the Big Wood River there are no modifications or diversions to the waterway. Water flows in this segment fluctuate dramatically throughout the year due to diversions upstream. It was determined that segment 1 of the Big Wood River meets the definition of free-flowing.

Segments 2 and 3. Due to minor areas of water impoundment and major modifications within these waterways, it was determined that these segments do not meet the definition of "free-flowing" in the *Wild and Scenic Rivers Act*. Because segments 2 and 3 are not free-flowing, they do not meet the eligibility requirements in section 2(b) of the Act for inclusion in the National Wild and Scenic Rivers System.

## Summary

Determinations were made as to the free-flowing characteristics of segments of Dry Creek, King Hill Creek, and the Big Wood River. The following segments were determined to meet the definition of "free-flowing" in the *Wild and Scenic Rivers Act*; Segment 1 of Dry Creek, Segment 1 of King Hill Creek, and Segment 1 of the Big Wood River. All other segments of these rivers and streams were determined not to meet the free-flowing definition. The remainder of this chapter will only deal with the segments determined to be free-flowing. Future

mention of Dry Creek, King Hill Creek and the Big Wood River refers only to these free-flowing segments.

## Outstandingly Remarkable Values

The second criteria that a river must meet to be eligible for inclusion in the National Wild and Scenic Rivers System is that it must possess one or more outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values. The term "outstandingly remarkable" is not precisely defined in the *Wild and Scenic Rivers Act*; consequently, the determination of whether or not a river area contains outstandingly remarkable values is based on the professional judgement of the interdisciplinary study team, responsible BLM managers, public comments, and inventory determinations by other agencies.

The BLM has developed a set of criteria to assess outstandingly remarkable values (BLM Manual 8351). These values, which must be directly river-related, are outstandingly remarkable if they are unique or exemplary compared to similar values in other river areas in the region. The outstandingly remarkable features should also be at least regionally significant.

The criteria for each category of values are listed followed by identified values for each river/stream segment. Table D-2 summarizes the outstandingly remarkable values identified for each stream/river segment.

**TABLE D-2**  
**Reasons for Eligibility Determinations**

Eligible River	Reason for Eligibility						
	Scenic	Recreational	Geologic	Fish & Wildlife	Historical	Cultural	Other
Dry Creek	X	X					X*
King Hill Creek	X			X			
Big Wood River	X		X				

\* Outstandingly remarkable ecological values identified

## Scenic Resources

### Eligibility Criteria

The landscape elements of landform, vegetation, water, color, and related factors must result in notable or exemplary visual features and/or attractions within the geographic region. The BLM Visual Resource Inventory Handbook H-8410-1 may be used in assessing visual quality and in evaluating the extent of development upon scenic values. When analyzing scenic values, additional factors such as seasonal variations in vegetation, scale of cultural modifications, and length of time negative intrusions are viewed may be considered. Scenery and visual attractions may be highly diverse over the majority of the river segment length and not common to other rivers in the geographic region.

**Dry Creek:** The scenic values of the canyon result from the river canyon and the geologic rock formations similar to the regional/national attraction found at Little City of Rocks and Gooding City of Rocks. The great diversity of registration and color between the riparian zone and surrounding desert results in an exemplary visual feature. Spectacular landforms occur within the Dry Creek watershed. These include columns, hoodoos, arches and monoliths. These landforms display weathering processes and structural anomalies that are picturesque and unusual. The combination of all

these visual factors provides outstanding remarkable scenic values.

**King Hill Creek:** The scenic values of the canyon result from the large basalt river canyon which ranges in depth from 250-500 feet with a high degree of contrast between vegetation, the stream itself, and the massive black basalt canyon walls. The sagebrush and rock canyon walls contrast sharply with the thick vegetation along the stream. A large stand of Douglas-fir trees on the west side of the upper canyon provide a unique scenic and ecological feature for this area. These scenic resources together warrant outstandingly remarkable values.

**Big Wood River:** The geologic features of volcanism and erosion have combined to form an intricately carved basalt river canyon. This canyon ranges in depth from 5 to 40 feet, and is as narrow as six feet across at places. The scenic values created by this formation is unique and warrants an outstandingly remarkable value.

## Recreational Resources

### Eligibility Criteria

Recreational opportunities are or have the potential to be unusual enough to attract visitors to the geographic region. Visitors are willing to travel long distances to use the river resources for recreational purposes. Recreation-related opportunities could include, but not

be limited to, sightseeing, wildlife observation, camping, photography, hiking, fishing, hunting, and boating. Interpretive opportunities may be exceptional and attract or have the potential to attract visitors from outside the geographic area. The river may provide or have the potential to provide settings for national or regional commercial usage or competitive events. In addition, the river may be eligible if it is determined to provide a critically important regional recreation opportunity, or a significant component of a regional recreation opportunity spectrum.

**Dry Creek:** Interpretation, nature study, canyon hiking, backpacking, wildlife viewing, hunting, and photography are some of the outstandingly remarkable recreational opportunities available along Dry Creek. The Idaho Department of Fish and Game Hunting Unit 45 encompasses Dry Creek and is managed for trophy mule deer hunting opportunities. Opportunities for solitude and primitive, unconfined recreation are also present in the surrounding Dry Creek Wilderness Study Area.

**King Hill Creek:** King Hill Creek offers many opportunities for a diversity of recreational activities. These include interpretation, nature study, canyon hiking, backpacking, wildlife viewing, fishing, hunting, and photography. These opportunities are noteworthy but were not deemed outstandingly remarkable. Opportunities for solitude and primitive, unconfined recreation are also present in the surrounding King Hill Creek Wilderness Study Area.

**Big Wood River:** The recreational opportunities associated with the Big Wood River include photography, sightseeing, and (when water is absent) exploring the inner river channel. However, these opportunities were not deemed to be outstandingly remarkable.

## Geologic Resources

### Eligibility Criteria

The river or the area within the river corridor contains example(s) of a geologic feature, process, or phenomenon that is rare, unusual, or unique to the geographic region. The feature(s) may be in an

unusually active stage of development, represent a textbook example, and/or represent a unique or rare combination of geologic features (erosional, volcanic, glacial, and other geologic structures).

**Dry Creek:** The geologic values associated with Dry Creek are notable but were not determined to be outstandingly remarkable.

**King Hill Creek:** The geologic values associated with King Hill Creek are notable but were not determined to be outstandingly remarkable.

**Big Wood River:** As mentioned in the scenic value description, the geologic features of volcanism and erosion have combined to form an intricately carved basalt river canyon. The inner river channel and the sculptured river formations are the primary attribute. The river channel provides textbook examples of the erosional abilities of water and stones to "polish" extremely rough, basalt lava rock into very smooth, circular pockets and angular formations. This feature is primarily visible when the water is absent from the stream channel. These rock formations are unique and interesting enough, from a geologic and scenic standpoint, to warrant an outstandingly remarkable value and are considered to be of regional importance.

## Fish Resources

### Eligibility Criteria

Fish values may be judged on the relative merits of either fish populations or habitat, or a combination of these river-related conditions.

**Populations** - The river is nationally or regionally one of the top producers of indigenous and/or anadromous fish species. Of particular significance may be the presence of wild or unique stocks, or populations of state, federally listed, or candidate threatened and endangered species.

**Habitat** - The river provides exceptionally high quality habitat for fish species indigenous to the region. Of particular significance is habitat for state, federally listed, or candidate threatened and endangered species.

**Dry Creek:** The fisheries values of Dry Creek are similar to most streams in the region and were determined not to be outstandingly remarkable.

**King Hill Creek:** King Hill Creek is the only known area in the Shoshone District with a pure strain of redband trout which is listed as a federal candidate (C2) BLM sensitive species and an Idaho Department of Fish & Game Species of Concern. However, redband trout are widespread throughout many of the BLM Boise District drainages. Prior to major dams of the Snake and Columbia Rivers, King Hill Creek potentially was habitat for anadromous fish. The existence of this population of redband trout was determined to warrant an outstandingly remarkable value.

**Big Wood River:** Due to removal of water upstream for irrigation purposes, this segment of the Big Wood River does not support year-round fisheries.

## Wildlife Resources

### Eligibility Criteria

Wildlife values may be judged on the relative merits of either wildlife populations or habitat, or a combination of these conditions.

**Populations** - The river or area within the river corridor contains nationally or regionally important populations of indigenous wildlife species. Of particular significance may be species considered to be unique or populations of state, federally listed, or candidate threatened and endangered species.

**Habitat** - The river or area within the river corridor provides exceptionally high quality habitat for wildlife of national or regional significance, or may provide unique habitat or a critical link in habitat conditions for state, federally listed, or candidate threatened and endangered species. Contiguous habitat conditions are such that the biological needs of the species are met.

**Dry Creek:** Dry Creek is home to many wildlife species including elk, deer, coyotes, bobcats, bears, birds of prey and upland game birds (chukars and

sage grouse). Until recently, it has supported a population of mountain quail, a BLM sensitive species and an Idaho Department of Fish and Game species of Concern. However, these wildlife values were determined not to warrant an outstandingly remarkable value.

**King Hill Creek:** The ecological values and diversity, riparian habitat, and the secluded nature of the canyon provides habitat for many species of wildlife. The area lies near crucial wintering areas for deer. However, these wildlife values were determined not to warrant outstandingly remarkable value.

**Big Wood River:** Wildlife values associated with the Big Wood River were determined not to warrant an outstandingly remarkable value.

## Cultural

### Eligibility Criteria

The river or area within the river corridor contains a site(s) where there is evidence of occupation or use by Native Americans. Sites must be rare, have unusual characteristics, or exceptional human interest value(s). Sites may have national or regional importance in interpreting prehistory; may be rare; may represent an area where culture or a cultural period was first identified and described; may have been used concurrently by two or more cultural groups; or may have been used by native groups for rare or sacred purposes.

**Dry Creek:** A high occurrence of cultural resource sites in the area indicate that the area was most likely used by early Native Americans. No sites were determined to be of such significance to warrant an outstandingly remarkable value.

**King Hill Creek:** The potential for historic runs of anadromous fish and the high occurrence of cultural resource sites, both east and west of the canyon, indicates the area was most likely used by Native Americans. No sites were determined to be of such significance to warrant an outstandingly remarkable value.

## Cultural

**Big Wood River:** No cultural values were identified within the Big Wood River corridor.

## Historic

### Eligibility Criteria

The river or area within the river corridor contains a site(s) or feature(s) associated with a significant event, an important person, or a cultural activity of the past that was rare or unusual in the region. A historic site(s) and/or feature(s) in most cases is 50 years old or older. Sites or features listed in, or eligible for inclusion in, the National Register of Historic Places may be of particular significance.

**Dry Creek:** No historic values were identified within the Dry Creek corridor.

**King Hill Creek:** No historic values were identified within the King Hill Creek corridor.

**Big Wood River:** No historic values were identified within the Big Wood River corridor.

## Other Similar Values

### Eligibility Criteria

While no specific evaluation guidelines have been developed for the "other similar values" category, additional values deemed relevant to the eligibility of the river segment should be considered in a manner consistent with the foregoing guidance -- including, but not limited to, hydrologic, ecologic/biologic diversity, paleontologic, botanic, and scientific study opportunities.

**Dry Creek:** The ecological diversity value and the secluded nature of the canyon provide habitat for wildlife, and the area is crucial winter habitat for deer and elk. An outstanding riparian zone is present, which provides valuable habitat for many species of wildlife and a scenic attribute for recreationists. Dry Creek's diversity and ecological values include riparian, aquatic and terrestrial habitats. It has a very high diversity of invertebrates, as well as a rainbow/cutthroat trout hybrid fisheries.

Well developed riparian vegetation includes black cottonwood, red-osier dogwood, and willow species. In addition to the aquatic and riparian habitats, a number of range habitat types are also present. Dominant shrubs in these types include basin big sagebrush, Wyoming big sagebrush, low sagebrush, and antelope bitterbrush. The dominant grass in all of these is bluebunch wheatgrass.

The geology and vegetation also provide a diverse ecological base for research and educational opportunities. This ecological diversity in a desert environment was determined to be an outstandingly remarkable value.

**King Hill Creek:** No additional outstandingly remarkable values were identified within the King Hill Creek corridor.

**Big Wood River:** No additional outstandingly remarkable values were identified within the Big Wood River corridor.

## Eligibility Determination Summary

Determinations were made as to the existence of outstandingly remarkable values associated with each of the free-flowing river segments. All three free-flowing segments (Dry Creek, King Hill Creek, and the Big Wood River) were determined to contain at least one outstandingly remarkable value.

Segment 1 of Dry Creek, Segment 1 of King Hill Creek, and Segment 1 of the Big Wood River were each determined to be free-flowing and to contain at least one outstandingly remarkable value. According to Section 2(b) of the *Wild and Scenic Rivers Act*, each of these segments meets the criteria to be eligible for further consideration for inclusion into the National Wild and Scenic Rivers System. The next step in this process is to assign a tentative classification to each of these river segments.

## Classification

This section discusses the three classification categories used for eligible rivers or river segments (wild, scenic, or recreational), the criteria considered for each classification category, and the classification determinations for the eligible segments of Dry Creek, King Hill Creek, and the Big Wood River.

After determining a river's eligibility to be studied for inclusion in the National Wild and Scenic Rivers System, it must be tentatively classified according to the category - wild, scenic, or recreational - that best fits each eligible segment. These terms can be misleading - a "scenic" river may have been designated for reasons other than scenery, and a "recreational" river doesn't necessarily have outstandingly remarkable recreational resources. Classification is based on the degree of naturalness and extent of development of the river and its adjacent land as it exists *at the time of the study*.

Classifying a study river as wild, scenic, or recreational does not segregate or withdraw the subject land, but rather recommends a level of interim management for federal land in the study area until a decision on designation is made by Congress. Guidance provided by the 1982 Final Revised Guidelines for Eligibility, Classification, and Management of River Areas, and 1992 manual will be used for interim management. If Congress designates a river or river segment, it will be managed according to how it is classified. Congress may classify a river segment at or below the highest level for which it qualifies. Specific management strategies may vary according to classification, but would be designed to protect and enhance the outstandingly remarkable values of the river and adjacent area. These specific management strategies are formulated during development of the river management plan, required within three full fiscal years of Congressional designation (*Wild and Scenic Rivers Act*, Section 3(d)(1)).

## Classification Categories

The three classification categories for eligible rivers are defined in Section 2(b) of the *Wild and Scenic Rivers Act* as:

**Wild river areas.** Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds and shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

**Scenic river areas.** Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely undeveloped, but accessible in places by roads.

**Recreational river areas.** Those rivers or sections that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

A wild river would be a very undeveloped river with limited access. A scenic classification would be applied to a river that is more developed than a wild river and less developed than a recreational river. A recreational classification would be appropriate in developed areas, such as where a river runs parallel to a road or railroad with adjacent land that has agricultural, forestry, commercial, or other developments, provided that the waterway remains generally natural and riverine in appearance.

## Classification Criteria

Water quality, water resources development, shoreline development, and accessibility are the criteria that are considered when determining classification. Each criterion is important, but their collective intent is more important. Although each classification permits existing development, the criteria do not imply that additional inconsistent development is permitted in the future. Developments that are compatible with designation would be allowed, provided they are carried out in an environmentally sound manner.

## Classification Determinations

**Dry Creek:** Upper Dry Creek is free of any impoundments, diversions, or stream bank modifications. Water quality is relatively good and is of sufficient quality to support the river corridor's outstandingly remarkable values. Water quality for scenic or recreational rivers is not required to continually meet or exceed federally approved state standards. Water quality is a consideration for wild river classification. Water quality tests have yet to be conducted within the Dry Creek drainage. However, based on riparian and fisheries conditions it is thought that Dry Creek will meet state standards for primary and secondary recreational use, fisheries habitat, warm and cold water biota, agricultural water supply, and perhaps domestic water supply.

No roads are found within the study segment's river corridor. This segment of Dry Creek is within the East Gooding City of Rocks Wilderness Study Area. The surrounding environment is a pristine area with little or no modification. Access to the general area is by a rough four-wheel-drive road, and access into the area is by foot only on unimproved game trails.

Dry Creek's highest potential classification is as a "wild" river. The classification determinations are summarized in Table D-3 and water quality is summarized in Table D-4.

**King Hill Creek:** Development of the water resources within this segment has not occurred, thus the river is free of any impoundments, diversions or stream bank modifications. Water quality is relatively good and is sufficient to support the river corridor's outstandingly remarkable values. Water quality for scenic or recreational rivers is not required to continually meet or exceed federally approved state standards; for a "wild" river water quality standards call for meeting or exceeding federal criteria or federally approved state standards. Water quality tests have yet to be conducted within the King Hill Creek drainage. However, based on riparian and fisheries conditions it is thought that King Hill Creek will meet state standards for primary and secondary recreational use, fisheries habitat, warm and cold water biota, agricultural water supply, and perhaps domestic water supply.

No roads are found within the study segment's river corridor. This segment of King Hill Creek is within the King Hill Creek Wilderness Study Area. The surrounding environment is a pristine area with little or no modification. A power line crossing is the only major sign of human development within the river corridor. The power line is visible in a limited area along the lower King Hill Canyon.

King Hill Creek's highest potential classification is as a "wild" river. The classification determinations are summarized in Table D-3 and water quality is summarized in Table D-4.

**Big Wood River:** The entire river corridor is paralleled by a dirt road and is crossed by a major highway. Houses and outbuildings occupy the adjacent private land.

Water quality is relatively good and is sufficient to support the river corridor's outstandingly remarkable values. Water quality for scenic or recreational rivers is not required to continually meet or exceed federally approved state standards. Therefore, current water quality does not affect its qualification for inclusion in the National Wild and Scenic Rivers System. Wild rivers are required to meet or exceed standards.

The Big Wood River's highest tentative classification is as a "recreational" river based on the level of development along the river, the amount of access, and water quality (summarized in Tables D-3 and D-4). This section of the Big Wood is considered a dry stream because of the operation of Magic Reservoir and irrigation diversions such as the Richfield Canal.

**TABLE D-3**  
**Classification Summary**

**WILD**

Criteria	Dry Creek	King Hill Creek	Big Wood River
Water Quality	Exceeds	Exceeds	Doesn't Meet
Water Resource Developments	Exceeds	Exceeds	Doesn't Meet
Shoreline Developments	Exceeds	Exceeds	Doesn't Meet
Accessibility	Exceeds	Exceeds	Doesn't Meet

**SCENIC**

Criteria	Dry Creek	King Hill Creek	Big Wood River
Water Quality	Exceeds	Exceeds	Doesn't Meet
Water Resource Developments	Exceeds	Exceeds	Doesn't Meet
Shoreline Developments	Exceeds	Exceeds	Doesn't Meet
Accessibility	Exceeds	Exceeds	Doesn't Meet

**RECREATIONAL**

Criteria	Dry Creek	King Hill Creek	Big Wood River
Water Quality	Exceeds	Exceeds	Meets
Water Resource Developments	Exceeds	Exceeds	Meets
Shoreline Developments	Exceeds	Exceeds	Meets
Accessibility	Exceeds	Exceeds	Meets

Meets - Meets the criteria for this classification

Doesn't Meet - Does not meet the criteria for this classification

Exceeds - Exceeds the criteria for the classification

**TABLE D-4**  
**Designated Beneficial Uses<sup>1/</sup> and Status<sup>2/</sup>**  
**of the Beneficial Use for Wild and Scenic**  
**Eligible Rivers in the**  
**Bennett Hills Planning Area\***

Stream Segment Name	Stream Segment Boundary Designation	Domestic Water Supply	Agricultural Water Supply	Cold Water Biota	Warm Water Biota	Salmonid Spawning	Primary Contact Recreation	Secondary Contact Recreation
Big Wood River	Eligible wild and scenic section		# X	# S/T			# P	# P
Dry Creek	Eligible wild and scenic section			Beneficial uses and status of the beneficial uses are not shown in Idaho Water Quality, 1988, or in Water Quality Standards, 1990.				
King Hill Creek	Eligible wild and scenic section			Beneficial uses and status of the beneficial uses are not shown in Idaho Water Quality, 1988, or in Water Quality Standards, 1990.				

\* Specific protective management guidelines are outlined in BLM manual 8351.32C.

1/ Beneficial use: The reasonable and appropriate use of water for a purpose consistent with Idaho State laws and the best interest of the people. Uses include, but are not limited to, domestic water supplies, agricultural water supplies, wildlife habitat, and recreation on or in the water. The seven beneficial uses recognized by the State are shown in the table headings.

2/ Status of use: A rating which describes the degree to which water is supporting the identified beneficial use.

N = Not supported: Waters having a beneficial use that cannot be sustained by the water. For any one pollutant, Environmental Protection Agency criteria or state standards are excluded by > 25%, or criteria or standards are exceeded by 11-15% and the mean of measurements is greater than the criteria or standards. Generally, pollutants are found at levels of concern.

P = Partially supported: Waters having some uncertainty about beneficial use support. For any one pollutant that has been "monitored", Environmental Protection Agency criteria or state standards are exceeded by 11-25% and the mean of measurements is less than the criteria; or criteria or standards are exceeded by  $\pm$  10% and the mean is greater than the criteria. On the basis of evaluated data (not monitored), non-point sources are present but may not affect the beneficial use, or no sources are present but there have been complaints. Generally, pollutants are not found at levels of concern.

S/T = Potentially at Risk: Those waters that fully support their designated use but that may not fully support the use in the future because of anticipated sources, or adverse trends of pollution. The beneficial use is supported, but is threatened.

X = Fully Supported: Waters where designated or existing beneficial uses are sustained by the water.

# = Protected for General Use: (State Water Quality Standards).

## Interim Management

Segments of these three study rivers have been determined to meet the requirements for Wild and Scenic River eligibility; therefore they must be managed to protect the identified outstandingly remarkable values, free-flowing conditions, and tentative classification conditions until a final decision is made regarding suitability.

### Suitability Determinations

The determination of suitability provides the basis to recommend designation or non-designation of a river. This section explains the different factors used in evaluating an eligible river's suitability as outlined in the *Wild and Scenic Rivers Act* and BLM guidelines. Each factor will be evaluated as it relates to each eligible river segment. Finally, recommendations will be made as to each river's suitability for Congressional designation. This information is summarized at the end of this section in Tables D-5, D-6, D-7, D-8, and D-9, Regional River Value Significance, Designation Conformance and Suitability.

### Suitability Factors

The guidance used to determine the suitability of a river or stream segment is from the *Wild and Scenic Rivers Act* and BLM Guidelines (BLM Manual 8351). The BLM Guidelines come directly from Section 4(a) of the Act, which specifies:

Each report, including maps and illustrations, shall show among other things the area included within the report; the characteristics which do or do not make the area a worthy addition to the system; the current status of land ownership and use in the area; the reasonably foreseeable potential uses of the land and water which would be enhanced, foreclosed, or curtailed if the area were included in the national wild and scenic rivers system; the Federal agency (which in the case of a river which is wholly or substantially within a national forest, shall be the Department of Agriculture) by which it is proposed the area, should it be added to the system, be

administered; the extent to which it is proposed that such administration, including the costs thereof, be shared by State and local agencies; and the estimated cost to the United States of acquiring necessary land and interests in land and of administering the area should it be added to the system.

Each of the eight suitability factors in Section 4(a) are addressed in this chapter as a separate section.

1. Characteristics that do or do not make the area a worthy addition to the system.

The regional significance, uniqueness, and exemplary quality of the outstandingly remarkable values were key considerations in the suitability analysis. None of the three study rivers would contribute significantly to the integrity of existing designated rivers. While the river segments contain the basic values for eligibility, the values are not considered to merit inclusion in the National Wild and Scenic Rivers System. There are no values that would benefit from additional protection other than that already proposed in the RMP through Area of Critical Environmental Concern (ACEC) designation, mineral withdrawal, and/or wilderness protection.

Designation of the any of the three study rivers would not support implementation or resolution of regional issues. In a regional context, the presence of redband trout (King Hill Creek) and scenic desert canyons/riparian zones (Dry Creek, King Hill Creek) are not unique and, in comparative quality, are less significant than such river systems as the Bruneau, Jarbidge, and Owyhee Rivers in the Boise BLM District, or rivers in eastern Oregon.

In summary, when looking at the study rivers they are not of regional and national significance when compared to other rivers proposed or presently in the Wild and Scenic Rivers System.

2. Current status of land ownership, use in the area, including the amount of private land involved and associated or conflicting uses.

### Land Ownership

Land ownership within the  $\frac{1}{2}$  mile river corridor for each river is summarized in Table D-5.

**Dry Creek:** The entire river corridor is within land administered by the Shoshone District.

**King Hill Creek:** King Hill Creek forms the boundary between two BLM Districts. The Shoshone District administers the eastern half of the creek and the Boise District administers the western half. Considering both sides of the study segment, BLM administers 98 percent of the river segment. A small portion of the stream corridor (2 percent) is administered by the state.

**Big Wood River:** Land ownership along the Big Wood River is primarily public land (99 percent) with a small portion in private ownership.

### Land Use/Relationship to Private Land

Land use controls on private land are a matter of state and local zoning. Although the *Wild and Scenic Rivers Act* includes provisions encouraging protection of river values through state and federal land use planning, these provisions are not binding on local governments.

The Federal Government is responsible for ensuring that management of designated rivers meets the intent of the Act. In the absence of local or state river protection provisions, the Federal Government could ensure compliance through acquisition of private land or interests in land. Section 6(b) of the *Wild and Scenic Rivers Act* specifically prohibits federal use of condemnation for fee title purchase of land if 50 percent or more of the land within the boundary is already in public ownership. The Act does provide the Federal Government with authority to purchase scenic, conservation, or access easements through condemnation proceedings, but this measure would be used only as a last resort if necessary to remove a threat to the river. Although private land may be included within the boundaries of the designation, management restrictions would apply only to public land.

Current land uses within the identified river corridors will be discussed for each river separately.

**Dry Creek:** Current land uses within the  $\frac{1}{2}$ -mile-wide river corridor are limited by the rugged canyon. Limited livestock grazing does occur in the area, but no other agricultural activities occur within the study segment's river corridor. The drainage is in the Black Canyon grazing allotment. The area is relatively remote and primitive, and is identified as a wilderness study area for its naturalness and opportunities for solitude, and primitive and unconfined recreation. Hunting for big game, particularly trophy mule deer, is a highly valued recreational pursuit. There are no private land residential developments within the river corridor.

**King Hill Creek:** Current land uses within the  $\frac{1}{2}$ -mile-wide river corridor are limited by the rugged canyon. Limited livestock grazing does occur in the area, but no other agricultural activities occur within the study segment's river corridor. The drainage is in the King Hill grazing allotment. The area is relatively remote, and primitive and is identified as a wilderness study area for its naturalness and opportunities for solitude, and primitive and unconfined recreation. A power line right-of-way crosses the study segment study near T. 4 S., R. 11 E., Section 18.

**Big Wood:** Recreational use is primarily for hiking, exploring and photographing the rock sculptures found in the inner gorge of the river channel. There are residential developments on adjacent private land.

Current land uses within the  $\frac{1}{2}$ -mile-wide river corridor include grazing, gravel and rock removal, a State Highway and county road, downstream irrigation water delivery via the river channel, and recreation use. Livestock grazing does occur in the area, but no other agricultural activities occur within the study segment's river corridor.

**TABLE D-5**  
**Land Ownership Within 1/2 Mile River Corridor**

River/Stream	BLM (Shoshone)	BLM (Other)	State	Private
Dry Creek	1,472 acres	0 acres	0 acres	0 acres
	100 percent	0 percent	0 percent	0 percent
King Hill Creek	1,544 acres	1,594 acres	0 acres	62 acres
	48 percent	50 percent	0 percent	2 percent
Big Wood River	658 acres	0 acres	7 acres	0 acres
	99 percent	0 percent	1 percent	0 percent

## Minerals

**Dry Creek:** The subsurface ownership of minerals is federally owned along the river corridor. There are no mining claims or mineral leases as of February 12, 1992. No leases can be issued for areas under wilderness study area interim protection.

**King Hill Creek:** Same as Dry Creek above.

**Big Wood:** The area is entirely covered by mining claims located April 23, 1992, by Gary L. Ojala for United Mining Corporation. T. 3 S., R. 18 E., Section 4: SE $\frac{1}{4}$ /NE $\frac{1}{4}$  and SW $\frac{1}{4}$ /SE $\frac{1}{4}$  are private surface and subsurface estates. The rest is federally owned minerals. There are no mineral leases.

A mineral withdrawal application is being processed to protect a 200-300-foot corridor along specific segments of the Big Wood River channel that are on public land.

On June 29, 1992, a petition was approved allowing the BLM to file an application to withdraw the subject land from the mining laws, subject to valid existing rights. For a period of two years from the date of publication in the *Federal Register* (July 8, 1992), the land will be segregated unless the application is denied or canceled, or the withdrawal is approved prior to that date. The temporary uses

which may be permitted during this segregative period are all uses, other than location and entry under the mining laws. The land would still remain open to mineral leasing.

3. Reasonably foreseeable potential uses of the land and related waters, which would be enhanced, foreclosed, or curtailed if the area were included in the National Wild and Scenic Rivers System, and the values which could be foreclosed or diminished if the area is not protected as part of the system.

Uses that would be foreclosed under a wild designation for Dry Creek and King Hill Creek would be energy/mineral development, transportation/utilities, commercial and residential development, and developed recreation. Under a scenic or recreation designation, protection would be less stringent and the above uses may be permitted if they were determined not to impact the identified outstandingly remarkable values following further analysis.

The resource values potentially diminished by non-designation are scenic, recreational, free flowing, water quality and quantity, and other (ecological). However, protection of these values is afforded by decisions made in the Resource Management Plan.

## Minerals

Uses that would be curtailed under a recreational designation for the Big Wood River would include energy/minerals, transportation/utilities, commercial and residential developments. Both developed and dispersed recreation would be enhanced. Resource values potentially diminished by non-designation are scenic, recreation, and free flowing.

The following discussion is common to all three study rivers unless otherwise noted.

### Commodity Uses

Designation of the river does not automatically restrict mining or grazing. Grazing could continue on public land provided that it does not degrade the outstanding qualities of the river that caused it to be designated. The *Wild and Scenic Rivers Act* states that "agricultural and forestry practices should be similar in nature as they were before designation.". Normal state and federal regulations still apply. Agriculture and grazing activities occurring at the time of designation would generally not be affected.

Mineral development could conflict with any recommendations for wild and scenic designation. The RMP proposes a mineral withdrawal to close the corridor to mineral location to provide protection measures for the identified resource values. This proposed RMP decision for a mineral withdrawal would be made regardless of the Wild and Scenic recommendation.

None of the three rivers is believed to be navigable since they are not capable of use as a public highway for transporting goods or for travel (recreational use, personal travel, and professionally-guided trips). Designation would not affect ownership or management responsibility nor any determination of navigability.

The proposed ACEC designation for Dry Creek would include a decision to exclude livestock from the canyon itself.

No commercial timber values exist along any of the eligible segments.

It is assumed that all forms of water developments would be foreclosed under any wild and scenic river classification.

### Mixed Land Ownership

Section 6(b) of the *Wild and Scenic River Act* specifically forbids the government from "fee title" condemnation of private land if more than 50% of a designated river is already publicly owned. Although private land may be included within the boundaries of the designation, federal management restrictions would apply only to public land.

Along the Big Wood River, trespassing on private land could be increased as a result because the area, although mostly public land with legal access, is adjacent to private land. Some of the private land has the same attractive river channel features.

### Recreation

Designation would not change fishing or hunting in any way. Any restrictions on boating use or recreation use are not necessarily related to designation. In the future, excessive recreational use could cause harm to the riverside environment and could be restricted regardless of federal designation. These issues would be addressed in a Wild and Scenic River Management Plan. In the case of the three study segments, they are not boatable stretches of water and dispersed recreation use is currently very low.

Recreation use and tourism are not expected to increase significantly as a result of designation, but the area may become better known. Wilderness designation and/or ACEC designation would also increase the visibility and recognition of values in the area. Lack of accessibility and the fact that none of the stretches are boatable are reasons why increases in use are considered to be minimal. Trespassing on private land, along King Hill Creek and Dry Creek, would not increase as a result because the area is surrounded by public land and legal access exists.

The Big Wood River segment is readily accessible and on a major tourist route. For these reasons, designation may increase use of the river area. There

are safety and liability concerns that people could be trapped in the river channel as water is released into the river for downstream irrigation.

## Water Rights/Water Quality

Section 13(b) of the Act states that designation has no effect on existing water rights. Applications for new water rights will continue to be administered by the Idaho Department of Water Resources under state law. A process is currently underway for adjudicating water rights in the Snake River basin. In-stream flow requirements would also be established and administered by the State of Idaho.

All Idaho rivers are subject to the water quality standards set forth in the *Federal Clean Water Act* and administered through the Idaho Department of Health and Welfare.

No dams or water projects can be built on designated wild and scenic river segments.

## Special Area Designation

Current and potential uses on BLM-administered land is expected to be compatible with a "wild" river classification for both Dry Creek and King Hill Creek. Current management direction has recognized the scenic, natural, and primitive values of both areas through the wilderness study area identification and the proposed ACEC designations.

The wilderness recommendation is suitable for most of the East Gooding City of Rocks WSA (which contains Dry Creek) in the Shoshone/Sun Valley Management Framework Plan (MFP) Amendment and Final EIS for Wilderness.

The wilderness recommendation is non-suitable for the King Hill Creek Wilderness Study Area (which includes King Hill Creek) in the Jarbidge Wilderness Final Wilderness EIS.

The Big Wood River area is not within a wilderness study area or any other special designation area, but is segregated from mineral entry while a withdrawal from the 1872 Mining Law is being processed.

Wild and scenic designation can provide both permanent protection and national recognition for the special values identified. Designation would maintain the existing values of the canyons and add protection of the river values. These values would be protected along King Hill Creek and Dry Creek if designated as a wilderness area or an ACEC. For these stream segments, designated wild and scenic river protection may be unnecessary and redundant.

For all three stream segments, the proposed visual resource management classification of Class II would restrict many surface disturbing or otherwise impacting projects. Major road construction or other similar projects are not foreseen near Dry Creek or King Hill Creek because of the steep, rugged nature of the study area.

4. Public, state, local, or federal interest in designation of the river, including the extent to which the administration of the river, including the costs thereof, may be shared by state, local, or other agencies and individuals.

The Shoshone District Advisory Council, at the May 19, 1992 meeting, recommended that the three study rivers be identified as non-suitable.

One Congressional inquiry was received concerning the proposed designations for the Dry Creek segment and perceived impacts to nearby private land.

Designations are not perceived as being inconsistent with other agency plans, programs, or policies.

An environmental organization, Committee for Idaho's High Desert, does have a legislative bill drafted that identifies King Hill Creek as a potential Wild and Scenic River.

5. Estimated cost of acquiring necessary land and interests in land and of administering the area if it is added to the system.

## Associated Costs Due to Designation

For Dry Creek and King Hill Creek, the estimated cost of acquiring necessary land and interests in land,

and of administering the area if it is added to the system would be mostly administrative in nature. No land acquisitions, scenic easements, or enhanced access would be recommended or needed.

Assuming that existing personnel could administer the area, and without any identified need for site development, maintenance, easements, or acquisitions, only minimal increase in budget dollars would be needed. Most of the costs would be associated with developing activity plans for the area, and a wild and scenic designation could be incorporated into a comprehensive plan for wilderness and/or ACEC management. The estimated potential costs would be low (\$0-25,000 annually).

Costs would also be minimal for the Big Wood River segment. A mineral withdrawal would be needed to protect the river channel, but this action is currently being pursued by the Shoshone District. The estimated potential costs would be \$0-25,000 annually.

**6. Ability of the agency to manage the river area or segment as a wild and scenic river.**

The federal agency which should administer the three river segments if designated is the BLM since it administers 98-100% of the study areas. Cooperation between all forms of government (federal, state, county, and local) should be sought in preserving the rivers' qualities and values. These governing agencies should collectively enhance management of the area with BLM as the lead agency due to ownership and jurisdiction, existing planning and management presence, and control/influence on factors which affect the outstandingly remarkable values. Dry Creek and the Big Wood River would be managed by the Bennett Hills Resource Area of the Shoshone District. King Hill Creek would be managed jointly by the Bennett Hills Resource Area and Boise District's Jarbidge Resource Area.

Current planning direction has already recognized the values along the three study rivers. The BLM's ability to manage and protect the identified values on federal land is high without wild and scenic designation. There are no known direct threats such as hydroelectric development, impoundments,

dredging, diversions, or channelization. Mining claims filed on the Big Wood River for the unique lava stones pose a threat to the values present. However, a mineral withdrawal for the river channel is being processed.

For Dry Creek, existing or proposed management protection includes ACEC, designated wilderness, VRM Class II, and riparian management.

For King Hill Creek, existing or proposed management protection includes ACEC, VRM Class II, and riparian management.

For the Big Wood River, current and potential uses on BLM-administered land is expected to be compatible with a recreational river classification; with the exception of mineral material removal, gravel sales, or mining claims. Recent interest has been high in removing the rock formations for commercial use as decorative stone for landscaping. Some protection of the river channel has been afforded by the designation of the area as a community pit; material removal is by permit only, and the location and amount of material removed can be controlled. A segregation from mineral entry exists while efforts are also underway to have a mineral withdrawal completed for the area including and adjacent to the river channel. Under 43 CFR Part 3809.1-4 (b) (2), an approved plan of operations is required prior to commencing any operation except casual use in areas designated as a potential addition or an actual component of the National Wild and Scenic Rivers System.

**7. Historical or existing rights, which would be adversely affected as to foreclose, extinguish, curtail, infringe, or constitute a taking that would entitle the owner to just compensation if the area were included in the wild and scenic river system. In the suitability analysis, adequate consideration will be given to rights held by owners, applicants, lessees, or claimants.**

No valid, existing rights are known that would conflict with Wild and Scenic River designation. Designation would not necessarily foreclose or curtail

any activities; nor would it enhance potential protective measures beyond what is identified for wilderness or ACEC protection.

#### **8. Other issues or concerns identified in the land use planning process.**

The Big Wood Canal Company has a preliminary project proposal for a hydropower project in the vicinity of the Big Wood River.

An inquiry was received from Senator Steve Symms on behalf of a land owner adjacent to Dry Creek identifying several concerns: 1) the possible effect of wilderness and/or wild and scenic designation on a water diversion in the vicinity; 2) the nomination of Dry Creek as an ACEC, and the rationale for overlapping several designations on the same area.

No other issues or concerns have been expressed at this time. Additional issues may be identified through the public involvement/review process.

### **Suitability Determinations and Recommendations**

**Dry Creek:** If designated, the greatest positive effect would be the long-term protection of the outstandingly remarkable values in the river corridor. The greatest negative effect would be the restriction on new land developments and activities, especially those that would negatively impact the outstandingly remarkable values in the river corridor. Constraints on private land owners are negligible since the study segment is 100 percent on public land.

If the Dry Creek segment was added to the National Wild and Scenic Rivers System, the BLM would continue to manage the land and resources as it currently does. Existing land uses and activities, including livestock grazing, would continue according to decisions authorized by the Resource Management Plan. Note that one alternative in the Draft Bennett Hills RMP is to exclude grazing under ACEC designation.

If Dry Creek was not added to the National Wild and Scenic Rivers System, the BLM would manage land

under its jurisdiction within the ½-mile corridor for protection of the wilderness and ACEC values; to include riparian values along the river. Some restrictions on use would occur. Outstandingly remarkable values would receive management similar to what would occur if the stream were designated a "wild" river.

Development of private land could diminish the scenic and recreational values, however the land with potential for development lies well outside the river corridor.

A suitable recommendation for wilderness designation has been made for this area in the Shoshone/Sun Valley Proposed MFP Amendment & Final Environmental Impact Statement. Congressional wilderness designation would protect the area, and management actions would focus on protecting and enhancing primitive values and natural processes.

**Recommendation:** The Dry Creek segment is recommended non-suitable for federal designation under the *Wild and Scenic Rivers Act*. The BLM's ability and intent (in the RMP preferred alternative) to protect the identified outstandingly remarkable values along Dry Creek indicate that designation may not be a necessary action. The absence of major public support or interest for designation reinforces the non-suitable recommendation. Dry Creek's outstandingly remarkable values can be protected by a combination of actions set forth in the Bennett Hills RMP preferred alternative and state law.

**King Hill Creek:** If designated, the greatest positive effect would be the long-term protection of the outstandingly remarkable values in the river corridor. The greatest negative effect would be the restriction on new land developments and activities, especially those that would negatively impact the outstandingly remarkable values in the river area. Constraints on private land owners are negligible since the study segment is 98 percent on public land.

If King Hill Creek was added to the National Wild and Scenic Rivers System, the BLM would continue to manage the land and resources as it currently does. Existing land uses and activities, including livestock grazing, would continue at levels authorized by the

Resource Management Plan. New land uses, developments, and activities could occur within guidelines applicable to the tentative wild classification, and outstandingly remarkable values would be protected as provided for by the *Wild and Scenic Rivers Act*.

Past inventories and planning efforts have recognized the scenic, natural, and primitive values of the area. If King Hill Creek was not added to the National Wild and Scenic Rivers System, the BLM would manage land under its jurisdiction within the 1/2-mile corridor for protection of the riparian values along the river, for Class II visual standards, and for continuation of existing levels of uses within the corridor.

Wilderness study area interim management will continue to protect identified values until a wilderness decision is made by Congress. A non-suitable recommendation has been made for the King Hill Wilderness Study Area in the Jarbidge Wilderness Final Environmental Impact Statement. King Hill Creek has been recommended for ACEC designation in the Draft Bennett Hills RMP to protect identified fish and wildlife values. The outstandingly remarkable values would receive management that would maintain the scenic attributes, ecological values, and fish and wildlife habitat in their present conditions. These management actions would be similar to what would occur if the stream were designated a "wild" river.

**Recommendation:** The King Hill Creek segment is recommended non-suitable for federal designation under the *Wild and Scenic Rivers Act*. The BLM's ability and intent (in the RMP preferred alternative) to protect the identified outstandingly remarkable values along King Hill Creek indicate that designation may not be a necessary action. The absence of major public support or interest in designation reinforces the non-suitable recommendation. King Hill Creek's outstandingly remarkable values can be protected by a combination of the actions set forth in the Bennett Hills RMP preferred alternative and state law.

**Big Wood River:** If designated, the greatest positive effect would be the long-term protection of

the outstandingly remarkable values in the river corridor. The greatest negative effect would be the restriction on new land developments and activities, especially those that would negatively impact the outstandingly remarkable values in the river corridor. Constraints on private land owners is negligible since the identified segment is 99 percent on public land.

If the Big Wood River was added to the National Wild and Scenic Rivers System, the BLM would continue to manage the land and resources as it currently does. Existing land uses and activities, including livestock grazing, would continue at levels authorized by the Resource Management Plan. New land uses, developments, and activities could occur within guidelines applicable to the potential recreational classification, and outstandingly remarkable values would be protected as provided for by the *Wild and Scenic Rivers Act*.

If the Big Wood River was not added to the National Wild and Scenic Rivers System, the BLM would manage land under its jurisdiction within the 1/2-mile corridor for protection of the scenic and geologic values along the river, and for continuation of existing levels of uses within the corridor. The outstandingly remarkable values would receive management similar to what would occur if the river were designated a "recreational" river.

An approved plan of operations would be required prior to commencing any operation except casual use in areas designated as a potential addition to the National Wild and Scenic Rivers System, as well as for actual components.

**Recommendation:** The Big Wood River segment is recommended non-suitable for federal designation under the *Wild and Scenic Rivers Act*. The BLM's ability and intent (in the RMP preferred alternative) to protect the identified outstandingly remarkable values along the Big Wood River indicate that designation may not be a necessary action. The absence of major public support or interest in designation reinforces the non-suitable recommendation. The Big Wood River's outstandingly remarkable values can be protected by a combination of actions set forth in the Bennett Hills RMP preferred alternative and state law.



## **Resource Management Plan Alternatives**

Please refer to Chapters 2 and 4 of the Draft Bennett Hills RMP/Draft EIS for the complete analysis of the

four alternatives for Wild and Scenic Rivers. The following is a summary of the alternatives from the draft Resource Management Plan.

**TABLE D-6**  
**Detailed Alternative Descriptions**  
**Bureau of Land Management**  
**Shoshone District, Idaho**

ALTERNATIVE A (Existing Management)	ALTERNATIVE B	ALTERNATIVE C	ALTERNATIVE D (Preferred Alternative)
<b><u>Issue 4 - Is there a need for protecting the Resource Area's critical resource values through special management designation?</u></b>			
No existing decision.	<p><i>The Big Wood, Dry Creek and King Hill river segments are determined to be not suitable for consideration by Congress for inclusion in the Wild &amp; Scenic Rivers system. Initiate the Wild &amp; Scenic River study process within two years of the Record of Decision on eligible segments of the Snake River. The study will be conducted in accordance with the Memorandum of Understanding with the State of Idaho [6.00].</i></p>	<p><i>The Big Wood, Dry Creek and King Hill river segments are determined suitable for consideration by Congress for inclusion in the Wild &amp; Scenic Rivers system. Note: BLM policy requires that at least one alternative be a suitable recommendation. Dry Creek and King Hill Creek are classified as "Wild" and the Big Wood River is classified as "recreational." See action 7.00 for management of Dry Creek and King Hill Creek. Initiate the Wild &amp; Scenic River study process within one year of the Record of Decision on eligible segments of the Snake River. Study will be conducted in accordance with the Memorandum of Understanding with the State of Idaho [6.00].</i></p>	<p><i>The Big Wood, Dry Creek and King Hill river segments are determined to be not suitable for consideration by Congress for inclusion in the Wild &amp; Scenic Rivers system. Initiate the Wild &amp; Scenic River study process within one year of the Record of Decision on eligible segments of the Snake River. Study will be conducted in accordance with the Memorandum of Understanding with the State of Idaho [6.00].</i></p>
No existing decision.	Approve no new power site withdrawals or developments that would jeopardize wild & scenic river eligibility of the Snake River in accordance with management guidance provided in BLM Manual 83351 on Wild & Scenic Rivers [6.01].	Same as Alternative B.	Same as Alternative B.
No existing decision.	Withdraw the segment of the Big Wood River designated as eligible for Wild & Scenic River consideration from mineral entry (map symbol S). Temporarily withdraw 2,202 acres (map symbol T), eligible for Wild & Scenic River designation on the Hagerman, King Hill, Milner, and Murtaugh segments of the Snake	Same as Alternative B.	Same as Alternative B.

River and on Box Canyon Creek, and Vineyard Lake and Creek, from mineral entry until suitability study determines the segment(s) are unsuitable, or Congress releases the segment(s) from further consideration. Withdrawal will be made permanent if Congress includes the segment(s) in the Wild & Scenic River System or the State of Idaho legislates protection for the segment(s) [6.02].

No existing decision.

Designate the Hagerman, King Hill, Milner, and Murtaugh segments of the Snake River (map symbol P) under consideration for Wild & Scenic River designation, as avoidance areas to new rights-of-way [6.03].

Same as Alternative B.

No existing decision.

Same as Alternative C.

No existing decision.

Same as Alternative B.

In the event the suitability study for the eligible Snake River, Vineyard Lake and Box Canyon Creek does not find the segments as suitable for Wild & Scenic River designation, or Congress releases these and the Big Wood, Dry Creek or King Hill Creek segments from further consideration, the management of these segments will be available to all aspects of public land law except as modified by other actions described in this plan [6.05].

No existing decision.

Same as Alternative B.

Close the segment of the Big Wood River designated as eligible for Wild & Scenic River (map symbol E) consideration to material sales and free use permits [6.06].

No existing decision.

Same as Alternative B.

Stipulate no surface occupancy for leaseable mineral (oil & gas) exploration and development on 2,202 acres, eligible for Wild & Scenic River designation, on

the Hagerman, King Hill, Milner, and Murtaugh segments of the Snake River and on Box Canyon Creek and Vineyard Lake (map symbol K) until suitability study determines the segment(s) are unsuitable or Congress releases the segment(s) from further consideration. The stipulation will be made permanent if Congress includes the segment(s) in the Wild & Scenic River System or the State of Idaho legislates protection for the segment(s). Stipulate no surface occupancy for leasable mineral (oil and gas) exploration and development on the Big Wood River segment eligible for Wild & Scenic River designation [6.07].

No existing decision.

Not applicable to this alternative.

Close the Big Wood River, suitable for Wild & Scenic River designation (map symbol F), to motorized vehicle use [6.08].

No existing decision.

Not applicable to this alternative.

Identify the segment of the Big Wood River suitable for Wild & Scenic River designation (map symbol O) as an exclusion area for land use authorizations [6.09].

*Designate 142 acres in Box Canyon as an Area of Critical Environmental Concern (map symbol A) for the purpose of preservation and research of threatened and endangered animal species.*

*Continue to manage 142 acres in Box Canyon as an Area of Critical Environmental Concern (map symbol A) for the purpose of preservation and research of threatened and endangered animal species.*

*Designate 110 acres in the Vineyard Lake area as an Area of Critical Environmental Concern (map symbol A) to preserve spawning habitat for hybrid trout.*

*Continue to manage 110 acres and an additional 68 acres in the Vineyard Lake area as an Area of Critical Environmental Concern (map symbol A) to preserve spawning habitat for hybrid trout.*

# Regional River Value Significance, Designation Conformance and Suitability

## Background and Status

River/Name Segment	Total Length (Miles)	Inventory Classification	Outstanding Remarkable Values						Jurisdiction (1/2 mile)					
			S.	R.	G.	F.	W.	H.	C.	O.	USFS Ac.	BLM Ac.	Other* Public Ac.	Private Ac.
Dry Creek (Segment 1)	4.6	Wild		S	R						E.B.	1,472	100	0
King Hill Creek (Segment 1)	10.0	Wild		S			F				E.B.	3,138	98	62
Big Wood River (Segment 1)	2.1	Recreational		S		S						658	99	7
			S. - Scenic											
			R. - Recreational											
			G. - Geologic											
			F. - Fish											
			W. - Wildlife											
			H. - Historic											
			C. - Cultural (Archaeological)											
			O. - Other											
			P. - Paleontologic											
			B. - Botanic											
			S.S. - Scientific Study											
			H. - Hydrologic											
			E.B. - Ecologic/Biologic											

(Use actual stream name and plan segment number. Assume other tables and narratives provide segment termini and approximate locations.)

(Use Wild Scenic or Recreational) (Use check mark or X, not-qualitative indicator.)

\*(An acre and % columns may be added for tribal land, when appropriate. If split estate note federal mineral areas and % in their specific narrative).

# Factors Required by the Wild and Scenic River Act

Uses Potentially Foreclosed, Curtailed or Enhanced by Designation to Any Eligible Classification			Resource Values Potentially Curbed, Diminished or Enhanced by Designation to Any Eligible Classification			Agency Feasibility or Ability to Manage and Protect ORVs on non-Federal Land			State/Local Government's Inconsistency of Designation with Other Agency Plans, Programs or Policies			Potential Context Identified Support for Designation
Wild	Scenic	Recreation	Wild	Scenic	Recreation	Wild	Scenic	Recreation	Wild	Scenic	Recreation	
4-F	4-C	4-C	1-E	1-E	1-E	1	1	1	High	Medium	No	9-A (King Hill Crk.)
5-F	5-C	5-C	2-E	2-E	2-E	2	2	2				(Dry Crk.)
6-F	6-C	6-C	3-E	3-E	3-E							
7-F	7-C	7-C	4-E	4-E	4-E							
9-F	9-C	9-C	7-E	7-E	7-E	7	7	7				
10-E	10-E	10-E	8-E	8-E	8-E	8	8	8				
..	..	..	9-E	9-E	9-E	9	9	9				

## Dry Creek (Segment 1/King Hill Creek Segment 1)

... ..	4-C	1-E	1	1	1	1	1	1	High	Medium	No	9-A (King Hill Crk.)
... ..	5-C	2-E	2	2	2	2	2	2				(Dry Crk.)
... ..	6-C	3-E	3	3	3	3	3	3				
... ..	7-C	4-E	4	4	4	4	4	4				
... ..	9-C	7-E	7	7	7	7	7	7				
10-E	10-E	8-E	8	8	8	8	8	8				
..	..	9-E	9	9	9	9	9	9				

## Big Wood River (Segment 1)

... ..	4-C	1-E	1	1	1	1	1	1	High	Medium	No	9-A (King Hill Crk.)
... ..	5-C	2-E	2	2	2	2	2	2				(Dry Crk.)
... ..	6-C	3-E	3	3	3	3	3	3				
... ..	7-C	4-E	4	4	4	4	4	4				
... ..	9-E	7-E	7	7	7	7	7	7				
... ..	10-E	8-E	8	8	8	8	8	8				

USES	VALUES	VALUES	VALUES	VALUES	VALUES	VALUES	VALUES	VALUES	VALUES	VALUES	VALUES	Potential Context Identified Support for Designation
1-Forest Management	1-Scenic	High	High	1-Scenic	High	F-Federal	1-State	1-State	1-State	1-State	1-State	(Assume State of Idaho (Consider Bu/Rec, and local plans would be changed to protect ORV on non-federal land)
2-Farm Management	2-Recreational	Medium	Medium	2-Recreational	Medium	S-State	2-County	2-County	2-County	2-County	2-County	, COE, etc. as well as land managing agencies)
3-Livestock Grazing	3-Fish	Low	Low	3-Fish	Low	CI-City	3-City	3-City	3-City	3-City	3-City	
4-Energy/Minerals	4-Wildlife	Unknown	Unknown	4-Wildlife	Unknown	CT-Tribal	4-Tribes	4-Tribes	4-Tribes	4-Tribes	4-Tribes	
5-Transportation/Utilities	5-Historic	Unknown	Unknown	5-Historic	Unknown	NW-NW Power Planning Council	5-Corporate/Comm.	5-Corporate/Comm.	5-Corporate/Comm.	5-Corporate/Comm.	5-Corporate/Comm.	
6-Commercial Development	6-Cultural (Archaeological)	Unknown	Unknown	6-Cultural (Archaeological)	Unknown	6-Individuals	6-Individuals	6-Individuals	6-Individuals	6-Individuals	6-Individuals	
7-Residential Development	7-Other	Unknown	Unknown	7-Other	Unknown	7-Orgs/Associations	7-Orgs/Associations	7-Orgs/Associations	7-Orgs/Associations	7-Orgs/Associations	7-Orgs/Associations	
8-Water Rights	8-Free Flow	Unknown	Unknown	8-Free Flow	Unknown	8-Land owners	8-Land owners	8-Land owners	8-Land owners	8-Land owners	8-Land owners	
9-Developed Recreation	9-Water Quality	Unknown	Unknown	9-Water Quality	Unknown	9-Environmental Groups	9-Environmental Groups	9-Environmental Groups	9-Environmental Groups	9-Environmental Groups	9-Environmental Groups	
10-Dispersed Recreation	10-Water Quantity	Unknown	Unknown	10-Water Quantity	Unknown	a. CIHD	a. CIHD	a. CIHD	a. CIHD	a. CIHD	a. CIHD	

(It is assumed all forms of water development would be foreclosed under any classification)

(Support or opposition to be shown without quantification)

(Consider Bu/Rec, COE, etc. as well as land managing agencies)

(Consistency with approved management practices given; jurisdiction, ownership, influence on factors which affect ORV's)

# Additional Factors Considered

Regional Significance	No	Yes or No (See narrative for specifics)	Yes or No (Comparative quality between rivers within the SCORP Region or other regional contexts using only affirmative rationale e.g., 1 or 2 remaining NW dipnet fisheries, 1 of 3 late summer whitewater boating, unique geology, exemplary ecosystem, State scenic highway or 1 of top 4 in SCORP region for (blank) ORV)	Yes or No (Identified proposals or engineering feasibility studies by DOE, BuRec, etc., e.g. proposed hydroelectric, potential impoundment, irrigation, flood control dredging, diversion channelization) (See state reports)
Contributes to River System or Basin Integrity	No	Yes or No (See narrative for specifics)	Yes or No (Contributes to integrity of existing designated rivers)	Yes or No (Identified proposals or engineering feasibility studies by DOE, BuRec, etc., e.g. proposed hydroelectric, potential impoundment, irrigation, flood control dredging, diversion channelization) (See state reports)
Dry Creek (Segment 1)	No	Yes or No (See narrative for specifics)	Yes or No (Big Wood Canal Company future hydroelectric project)	Yes or No (Yes, Red Band Trout, Riparian Management)
King Hill Creek (Segment 1)	No	Yes or No (See narrative for specifics)	Yes or No (Big Wood Canal Company future hydroelectric project)	Yes, Riparian Management
Big Wood River (Segment 1)	No	Yes or No (See narrative for specifics)	Yes or No (Big Wood Canal Company future hydroelectric project)	Supports Implementation or Resolution of Regional Issues

# Estimated Potential Costs

	Management (Annual)			Resource Protection/ Recreation Enhancement			Acquisition (fee or easement)		
	W	S	R	W	S	R	W	S	R
Dry Creek (Segment 1)	L	L	L	L	L	L	L	L	L
King Hill Creek (Segment 1)	L	L	L	L	L	L	L	L	L
Big Wood River (Segment 1)	L	L	L	L	L	L	L	L	L

W-Wild

S-Scenic

R-Recreation

H-High (\$250,000 +  
M-Medium (\$50,000 - \$250,000)

L-Low (\$0 - \$50,000)

U-Unknown

N-None

(Costs are only rough estimates without detailed development plans. Acquisitions, if any, would be on a willing buyer/willing seller basis, using exchanges in lieu of purchase when feasible)

# Agency Findings

Alternative Management Protection If Not Suitable	Agency Suitability Findings*	(May be Wild Scenic Recreational No, but protected No)
Dry Creek (Segment 1) ACEC, DW*, VRM, RMA *Recommended Suitable	No, but protected	
King Hill Creek (Segment 1) ACEC, VRM, RMA	No, but protected	
Big Wood River (Segment 1) VRM, MW	No, but protected	
	RMA-Riparian management area ORFA-Older forest retention area ACEC-Area of Critical Env. Concern DW-Designated Wilderness SSR-State scenic river or waterway SSH-State Scenic Highways LSR-Local scenic river, waterway or greenway or highway VRM-Visual Resource Management Class 2 NWPPC-Northwest Power Planning Council Protected Area MW-Mineral Withdrawal DD-Dams/Diversions Prohibited	(ORV's would be protected or enhanced under Land Use Plans or Activity Plans or other protective designations (e.g., ACEC, Wilderness, etc.)). Footnote or individual river narrative should indicate if alternative designations would preclude dams & diversions)



## **Appendix E: Monitoring and Evaluation Plan**

The objectives of monitoring plans are to gather the data and information needed to evaluate the results of management efforts to achieve resource objectives. Monitoring and evaluation help determine whether the management prescriptions and associated provisions for coordinating multiple uses in defined geographical areas as established in BLM plans are satisfactory. Monitoring also helps identify significant new circumstances or information that warrant changes in planned management activities. Monitoring plans are written with interdisciplinary input and the coordinated effort of all interested parties. Monitoring plans document the monitoring methods, schedule, and workload for data gathering and evaluation. Other objectives of monitoring include: 1) the development and maintenance of monitoring and evaluation records that document resource conditions and trends on the public land; 2) the collection of data that helps managers and resource specialists determine when plan decisions and associated management prescriptions are achieving resource objectives, including the protection of sensitive resources; 3) to ensure the use of ecological site inventory and other baseline data to describe site potential and resource capability; 4) to provide information to evaluate policy.

It is the policy of the BLM in Idaho to prepare a Resource Objectives and Monitoring Plan (ROMP). Resource condition objectives identified in RMPs or MFPs may be more specifically defined and interpreted during completion of monitoring plans and subsequent detailed implementation planning so long as the more specific definition is in conformance with the approved plan. If it is determined that the RMP's resource condition objectives need changing, the change will be made through a plan amendment or revision.

District and Resource Area Managers shall ensure appropriate coordination and consultation with those persons operating on the public land under existing permits, contracts, cooperative agreements, or other specific written authorizations. Public review and comment on resource area monitoring schedules and

programs are encouraged, although not required. The monitoring activities conducted under this guidance involve implementing provisions of existing plans and is not a planning activity under provisions of BLM planning regulations of 43 CFR Part 1600. However, the results of these monitoring activities will contribute to the plan monitoring provisions of 43 CFR Part 1610.4-9.

Resource Objectives and Monitoring Plans shall be prepared by an interdisciplinary team. The following items represent the minimum content requirements for a monitoring plan:

- **Objectives:** Documentation of site-specific resource objectives.
- **Attribute:** Statement of the resource attribute to be measured.
- **Techniques and Standards:** Description of monitoring techniques and applicable statistical standards.
- **Schedule:** A monitoring schedule showing the frequency of data collection for each study type by allotment or other geographic unit (if needed to meet the monitoring needs of resource programs other than grazing management).
- **Study Locations:** Description of study locations (by ecological site, if available, or by major vegetation types at a minimum). Specify legal description for permanent location studies.
- **Responsibilities:** Identification of the field office positions responsible for establishing, collecting, and evaluating monitoring data.
- **Specific Details of Study:** The study method, frequency, intensity, level of detail required, and schedule for completion of studies and evaluations.
- **Provisions for Coordination:** Provisions for coordinating monitoring activities with outside interest groups who have expressed a desire to participate in the monitoring.



## **Appendix F: General Vegetation Management Zones**

The following is a list of the general vegetation management zones found in the Bennett Hills Resource Management Planning Area.

1. A zone characterized by generally loam soils, having 8-12" precipitation, with potential to grow Wyoming big sagebrush over Bluebunch wheatgrass, Thurber's needlegrass, or Indian ricegrass. The principal ecological sites found in this zone are:

<b>Ecological Site Name</b>	<b>Number</b>
Stony 8-12" PPT ARTRW/AGSP	011BY003I
Clay Pan 7-12" PPT ARTRW/AGSP	011AY005I
Loamy 8-12" PPT ARTRW/AGSP	011AY004I
Loamy 8-10" PPT ARTRW/STTH2	011AY001I
Calcareous Loamy 7-10" PPT ATCO/ARSP/ORHY/STTH	011XY010I
Shallow Loamy 8-10" PPT ARTRW/AGSP	011AY002I
Saline Bottom 8-12" PPT SAVE4/ELCI2	011XY002I
Silty 7-10" PPT EULA	011XY009I
Loamy 11-13" PPT ARTRW/AGSP	I
Loamy 10-12" PPT ARTRW/AGSP	11XY001I
Loamy 8-10" PPT ARTRW/STTH2	011XY003I
Sandy Loam 8-12" PPT ARTRW/ORHY	011XY014I

2. A zone characterized by generally loamy soils, having 8-10" precipitation, with potential to grow Basin big sagebrush over Bluebunch wheatgrass. The principal ecological sites found in this zone are:

<b>Ecological Site Name</b>	<b>Number</b>
Stony Loam 10-12" PPT ARTRT/AGSP	011AY011I
Shallow Fractured 8-12" PPT ARTRT/AGSP	011AY003I
Loamy 8-12" PPT ARTRT/AGSP	011AY009I
Loamy Bottom 8-14" PPT ARTRT/ELCI2	011AY008I
Loamy Bottom 8-14" PPT ARTRT/ELCI2	011XY015I

3. A zone with soils composed primarily of sand, having 8-12" precipitation, with potential to grow Basin big sagebrush over Indian ricegrass. The principal ecological sites found in this zone are:

<b>Ecological Site Name</b>	<b>Number</b>
Sand 8-12" PPT ARTRT/ORHY/STCO4	011AY014I
Sand 8-12" PPT ARTRT/ORHY	011XY011I

4. A zone characterized by generally loamy soils, having 11-13" precipitation, with potential to grow Idaho three-tip sagebrush over Bluebunch wheatgrass. The principal ecological site found in this zone is:

Ecological Site Name	Number
Loamy 11-13" ARTR4/AGSP	011BY012I

5. A zone characterized by loam, gravelly loam, or stony loam soils, having 12-16" precipitation, with potential to grow Mountain big sagebrush over Bluebunch wheatgrass. The principal ecological sites found in this zone are:

Ecological Site Name	Number
North Slope Stony Loam ARTRX/PUTR2/AGSP	010AY??I
Loamy 12-16" PPT ARTRV/AGSP	010AY019I
Fractured South Slope 12-16" PPT ARTRV/AGSP	010AY012I
South Slope Gravelly 12-16" PPT ARVA2/AGSP	010AY009I

6. A zone characterized by loamy soils, having 12-16" precipitation, with potential to grow Basin big sagebrush over Bluebunch wheatgrass. The principal ecological site found in this zone is:

Ecological Site Name	Number
Loamy 12-16" PPT ARTRT/AGSP	010AY022I

7. A zone characterized by loamy soils, having 12-16" precipitation, with potential to grow Mountain big sagebrush over Idaho fescue. The principal ecological site found in this zone is:

Ecological Site Name	Number
Loamy 12-16" PPT ARVA2-FEID	010AY004I

8. A zone characterized by stony clayey, clay pan, or shallow stony soils which are typically saturated with water during spring snowmelt, having 8-16" precipitation, with potential to grow Low sagebrush and Bluebunch wheatgrass. The principal ecological sites found in this zone are:

Ecological Site Name	Number
Stoney Clayey 8-12" PPT ARAR8/AGSP	010AY??I
Stoney Clayey 12-16" PPT ARAR8/AGSP	010AY??I
Clay Pan 12-16" PPT ARAR8/AGSP	010AY029I
Shallow Stony 8-16" PPT ARAR8/AGSP	010AY007I

9. A zone characterized by clayey or stony clay soils which are typically saturated with water during spring snowmelt, having 12-16" precipitation, with potential to grow Alkali sagebrush and Idaho fescue. The principal ecological sites found in this zone are:

<b>Ecological Site Name</b>	<b>Number</b>
Clayey 11-14" PPT ARLO/AGSP	010AY006I
Clayey 12-16" PPT ARLO/FEID	010AY017I
Stoney Clay 12-16" PPT ARLO9/FEID	010AY001I

10. A zone of churning clay soils, having 8-12" precipitation, with potential to grow Wyoming big sagebrush over Bluebunch wheatgrass. The principal ecological site found in this zone is:

<b>Ecological Site Name</b>	<b>Number</b>
Churning Clay 8-12" PPT ARTRW/AGSP	011AY010I

11. A zone in the area of the Gooding City of Rocks, for which a new ecological site description is being written. The principal ecological site found in this zone is:

<b>Ecological Site Name</b>	<b>Number</b>
New range site being developed	???????????

12. A zone characterized by soils saturated with water as least part of the year, normally receiving more than 12" precipitation, with potential to grow several kinds of plant communities. Semi-wet meadows are characterized by low growing shrub and/or grass/sedge/rush/forb plant communities. Wet meadows are characterized by tree/willow/grass/sedge/rush/forb plant communities. The small zone is normally associated with springs and seeps, or stream bottoms. The principal ecological sites found in this zone are:

<b>Ecological Site Name</b>	<b>Number</b>
Semi-wet Saline Meadow SAVE4/DIST	011AY007I
Semi-wet meadow	010AY028I
Wet Meadow	011AY015I
Wet Meadow	010AY027I

NOTE: At the Third Order Soil Survey mapping scale, most semi-wet and wet meadows, and other water-associated vegetation types are included in larger mapping units. The BLM will continue to inventory and monitor these important "green zones" because of their special value.

## Desirable Plant Species by General Vegetation Management Zone

Listed by vegetation zone are desirable plant species which would be used to achieve the Desired Plant Community goals. The plant species shown in bold type are the primary desirable plant species for that vegetation zone. The plant species listed as introduced include both exotic and native plant species which do not naturally occur on the ecological sites in that vegetation zone. The plant species are listed in order of preference by subgroup heading.

For vegetation communities which principally contain intact native plant communities, the perennial native plant species shown in bold type are the principal desired plant species which would be used to achieve the Desired Plant Community goals. In vegetation communities which lack most of the principal native plant species, a combination of native and introduced plant species shown in bold type would be used to achieve the Desired Plant Community goals.

Where a desirable mix of plant species is not in existence, vegetation manipulation effort would be undertaken to release the present desirable plant species from existing competition and/or introduce desirable plant species into the plant community. Weighted consideration will be given to native plant species listed by ecological zone. The composition of perennial grasses and forbs for those ecological sites in the 8"-12" precipitation zone would most likely be achieved by use of principal perennial introduced species as shown on the appropriate vegetation zone plant list.

The plant listing by vegetation zone in this appendix is not intended to be an exhaustive search of all plant species which are known to exist in an ecological site. The availability and adaptability of plant species not included in this appendix will continue to be sought in an effort to help satisfy biological diversity on public land.

### Zone 1

Loamy 8"-12" Wyoming Big Sagebrush\Bluebunch Wheatgrass  
Wyoming Big Sagebrush\Thurber Needlegrass  
Wyoming Big Sagebrush\Indian Ricegrass

#### Principal Grasses

##### Perennial Native Species

bluebunch wheatgrass	<i>Agropyron spicatum</i>
Thurber needlegrass	<i>Stipa thurberiana</i>
needle and thread grass	<i>Stipa comata</i>
Great Basin wildrye	<i>Elymus cinereus</i>
indian ricegrass	<i>Oryzopsis hymenoides</i>
stream bank wheatgrass	<i>Agropyron riparium</i>
sand dropseed	<i>Sporobolus cryptandrus</i>
bottlebrush squirreltail	<i>Sitanion hystrrix</i>
Nevada bluegrass	<i>Poa nevadensis</i>
Sandberg bluegrass	<i>Poa sandbergii</i>

##### Perennial Introduced Species

Goldar bluebunch wheatgrass	<i>Agropyron spicatum</i>
Siberian wheatgrass	<i>Agropyron sibiricum</i>
pubescent wheatgrass	<i>Agropyron trichophorum</i>
Fairway crested wheatgrass	<i>Agropyron cristatum</i>
standard crested wheatgrass	<i>Agropyron desertorum</i>

### Annual Introduced Species

brome *Bromus* spp.

### Principal Forbs

#### Perennial Native Species

arrowleaf balsamroot	<i>Balsamorhiza sagittata</i>
tapertip hawksbeard	<i>Crepis acuminata</i>
biscuitroot	<i>Lomatium</i> spp.
scarlet globemallow	<i>Sphaeralcea coccinea</i>
buckwheat	<i>Eriogonum</i> spp.
lupine	<i>Lupinus</i> spp.
aster	<i>Aster</i> spp.
fleabane	<i>Erigeron</i> spp.
onion	<i>Allium</i> spp.
longleaf phlox	<i>Phlox longifolia</i>
Carpet phlox	<i>Phlox hoodii</i>

#### Perennial Introduced Species

Appar Lewis flax	<i>Linum lewisii</i>
prostrate kochia	<i>Kochia prostrata</i>
Eski sainfoin	<i>Onobrychis viciaefolia</i>
small burnett	<i>Sanguisorba minor</i>

### Principal Shrubs

#### Native Species

Wyoming big sagebrush	<i>Artemisia tridentata wyomingensis</i>
green rabbitbrush	<i>Chrysothamnus viscidiflorus</i>
spiny hopsage	<i>Grayia spinosa</i>
littleleaf horsebrush	<i>Tetradymia glabrata</i>

#### Introduced Species

Lund sagebrush	<i>Artemisia tridentata vaseyana x wyomingensis</i>
silver sagebrush	<i>Artemisia cana cana</i>
four-wing saltbush	<i>Artiplex canescens</i>

### Zone 2

Loamy 8"-12" Basin Big Sagebrush\Bluebunch Wheatgrass

### Principal Grasses

#### Perennial Native Species

bluebunch wheatgrass	<i>Agropyron spicatum</i>
Thurber needlegrass	<i>Stipa thurberiana</i>

Great Basin wildrye	<i>Elymus cinereus</i>
needleandthread grass	<i>Stipa comata</i>
stream bank wheatgrass	<i>Agropyron riparium</i>
indian ricegrass	<i>Oryzopsis hymenoides</i>
bottlebrush squirreltail	<i>Sitanion hystrix</i>
Nevada bluegrass	<i>Poa nevadensis</i>
Sandberg bluegrass	<i>Poa sandbergii</i>

#### Perennial Introduced Species

Siberian wheatgrass	<i>Agropyron sibiricum</i>
pubescent wheatgrass	<i>Agropyron trichophorum</i>
intermediate wheatgrass	<i>Agropyron intermedium</i>
Fairway crested wheatgrass	<i>Agropyron cristatum</i>
Standard crested wheatgrass	<i>Agropyron desertorum</i>

#### Annual Introduced Species

brome	<i>Bromus</i> spp.
-------	--------------------

### Principal Forbs

#### Perennial Native Species

arrowleaf balsamroot	<i>Balsamorhiza sagittata</i>
cutleaf balsamroot	<i>Balsamorhiza hookeri</i>
tapertip hawksbeard	<i>Crepis acuminata</i>
biscuitroot	<i>Lomatium</i> spp.
scarlet globemallow	<i>Sphaeralcea coccinea</i>
buckwheat	<i>Eriogonum</i> spp.
penstemon	<i>Penstemon</i> spp.
yarrow	<i>Achillea millefolium</i>
indian paintbrush	<i>Castilleja</i> spp.
lupine	<i>Lupinus</i> spp.
aster	<i>Aster</i> spp.
fleabane	<i>Erigeron</i> spp.
onion	<i>Allium</i> spp.
longleaf phlox	<i>Phlox longifolia</i>
Carpet phlox	<i>Phlox hoodii</i>

#### Perennial Introduced Species

Appar Lewis flax	<i>Linum lewisii</i>
prostrate kochia	<i>Kochia prostrata</i>
Eski sainfoin	<i>Onobrychis viciaefolia</i>
small burnett	<i>Sanguisorba minor</i>

### Principal Shrubs

#### Native Species

basin big sagebrush	<i>Artemisia tridentata</i> <i>tridentata</i>
bitterbrush	<i>Purshia tridentata</i>

**Wyoming big sagebrush**  
**slenderbush eriogonum**  
**green rabbitbrush**  
**three-tip sagebrush**  
**gray horsebush**  
**prickly pear**  
**broom snakeweed**

*Artemisia tridentata wyomingensis*  
*Eriogonum microthecum*  
*Chrysothamnus viscidiflorus*  
*Artemisia tripartita*  
*Tetradymia canescens*  
*Opuntia polyacantha*  
*Gutierrezia sarothrae*

#### Introduced Species

**Lund sagebrush**  
**four-wing saltbush**  
**silver sagebrush**

*Artemisia tridentata vaseyana x wyomingensis*  
*Artiplex canescens*  
*Artemisia cana cana*

### **Zone 3**

Sand 8"-12" Basin Big Sagebrush\Indian Ricegrass

#### **Principal Grasses**

##### Perennial Native Species

indian ricegrass  
sand dropseed  
needleandthread grass  
Great Basin wildrye  
thickspike wheatgrass  
Thurber needlegrass  
bottlebrush squirreltail  
Sandberg bluegrass

*Oryzopsis hymenoides*  
*Sporobolus cryptandrus*  
*Stipa comata*  
*Elymus cinereus*  
*Agropyron dasystachyum*  
*Stipa thurberiana*  
*Sitanion hystris*  
*Poa sandbergii*

##### Perennial Introduced Species

Goldar bluebunch wheatgrass  
Siberian wheatgrass  
Fairway crested wheatgrass  
Standard crested wheatgrass  
western wheatgrass

*Agropyron spicatum*  
*Agropyron sibiricum*  
*Agropyron cristatum*  
*Agropyron desertorum*  
*Agropyron smithii*

##### Annual Introduced Species

brome

*Bromus* spp.

#### **Principal Forbs**

##### Perennial Native Species

arrowleaf balsamroot  
tapertip hawksbeard  
biscuitroot  
penstemon

*Balsamorhiza sagittata*  
*Crepis acuminata*  
*Lomatium* spp.  
*Penstemon* spp.

aster  
Carpet phlox

*Aster* spp.  
*Phlox hoodii*

Perennial Introduced Species

Appar Lewis flax  
Eski sainfoin  
prostrate kochia  
small burnett

*Linum lewisii*  
*Onobrychis viciaefolia*  
*Kochia prostrata*  
*Sanguisorba minor*

**Principal Shrubs**

Native Species

basin big sagebrush  
bitterbrush  
Wyoming big sagebrush  
green rabbitbrush  
gray rabbitbrush

*Artemisia tridentata tridentata*  
*Purshia tridentata*  
*Artemisia tridentata wyomingensis*  
*Chrysothamnus viscidiflorus*  
*Chrysothamnus nauseosus*

Introduced Species

Lund sagebrush  
four-wing saltbush  
silver sagebrush

*Artemisia tridentata vaseyana x wyomingensis*  
*Artiplex canescens*  
*Artemisia cana cana*

**Zone 4**

Clay Pan 11"-13" Three-tip Sagebrush\Bluebunch Wheatgrass

**Principal Grasses**

Perennial Native Species

Thurber needlegrass  
bluebunch wheatgrass  
prairie junegrass  
stream bank wheatgrass  
bottlebrush squirreltail  
Sandberg bluegrass

*Stipa thurberiana*  
*Agropyron spicatum*  
*Koeleria cristata*  
*Agropyron riparium*  
*Sitanion hystrix*  
*Poa sandbergii*

Perennial Introduced Species

Goldar bluebunch wheatgrass  
Siberian wheatgrass  
intermediate wheatgrass  
pubescent wheatgrass  
western wheatgrass  
Russian wildrye  
Fairway crested wheatgrass  
Standard crested wheatgrass

*Agropyron spicatum*  
*Agropyron sibiricum*  
*Agropyron intermedium*  
*Agropyron trichophorum*  
*Agropyron smithii*  
*Elymus junceus*  
*Agropyron cristatum*  
*Agropyron desertorum*

### Annual Introduced Species

brome

*Bromus* spp.

### **Principal Forbs**

#### Perennial Native Species

tapertip hawksbeard  
biscuitroot  
penstemon  
lupine  
longleaf phlox

*Crepis acuminata*  
*Lomatium* spp.  
*Penstemon* spp.  
*Lupinus* spp.  
*Phlox longifolia*

#### Perennial Introduced Species

Appar Lewis flax  
Eski sainfoin  
prostrate kochia  
small burnett

*Linum lewisii*  
*Onobrychis viciaefolia*  
*Kochia prostrata*  
*Sanguisorba minor*

### **Principal Shrubs**

#### Native Species

three-tip sagebrush  
Wyoming big sagebrush  
bitterbrush  
basin big sagebrush  
green rabbitbrush  
gray rabbitbrush

*Artemisia tripartita*  
*Artemisia tridentata wyomingensis*  
*Purshia tridentata*  
*Artemisia tridentata tridentata*  
*Chrysothamnus viscidiflorus*  
*Chrysothamnus nauseosus*

#### Introduced Species

Lund sagebrush  
four-wing saltbush  
silver sagebrush

*Artemisia tridentata vaseyana x wyomingensis*  
*Artiplex canescens*  
*Artemisia cana cana*

### **Zone 5**

Loamy 12"-16" Mountain Big Sagebrush\Bluebunch Wheatgrass

### **Principal Grasses**

#### Perennial Native Species

bluebunch wheatgrass  
Thurber needlegrass  
Columbia needlegrass  
Great Basin wildrye  
Idaho fescue  
prairie junegrass

*Agropyron spicatum*  
*Stipa thurberiana*  
*Stipa occidentalis*  
*Elymus cinereus*  
*Festuca idahoensis*  
*Koeleria cristata*

bottlebrush squirreltail	<i>Sitanion hystrix</i>
Nevada bluegrass	<i>Poa nevadensis</i>
Sandberg bluegrass	<i>Poa sandbergii</i>

#### Perennial Introduced Species

Goldar bluebunch wheatgrass	<i>Agropyron spicatum</i>
Paiute orchardgrass	<i>Dactylis glomerata</i>
intermediate wheatgrass	<i>Agropyron intermedium</i>
pubescent wheatgrass	<i>Agropyron trichophorum</i>
Russian wildrye	<i>Elymus junceus</i>
Siberian wheatgrass	<i>Agropyron sibiricum</i>

#### Annual Introduced Species

brome	<i>Bromus</i> spp.
-------	--------------------

### Principal Forbs

#### Perennial Native Species

arrowleaf balsamroot	<i>Balsamorhiza sagittata</i>
cutleaf balsamroot	<i>Balsamorhiza hookeri</i>
tapertip hawksbeard	<i>Crepis acuminata</i>
biscuitroot	<i>Lomatium</i> spp.
lupine	<i>Lupinus</i> spp.
buckwheat	<i>Eriogonum</i> spp.
fleabane	<i>Erigeron</i> spp.
longleaf phlox	<i>Phlox longifolia</i>

#### Perennial Introduced Species

Appar Lewis flax	<i>Linum lewisii</i>
Eski sainfoin	<i>Onobrychis viciaefolia</i>
small burnett	<i>Sanguisorba minor</i>

### Principal Shrubs

#### Native Species

mountain big sagebrush	<i>Artemesia tridentata vaseyana</i>
bitterbrush	<i>Purshia tridentata</i>
Wyeth eriogonum	<i>Eriogonum heracleoides</i>
green rabbitbrush	<i>Chrysothamnus viscidiflorus</i>

#### Introduced Species

Hobble Creek sagebrush	<i>Artemesia tridentata vaseyana x wyomingensis</i>
four-wing saltbush	<i>Artiplex canescens</i>

## **Zone 6**

Loamy 12"-16" Basin Big Sagebrush\Bluebunch Wheatgrass

### **Principal Grasses**

#### Perennial Native Species

bluebunch wheatgrass	<i>Agropyron spicatum</i>
Great Basin wildrye	<i>Elymus cinereus</i>
Thurber needlegrass	<i>Stipa thurberiana</i>
Idaho fescue	<i>Festuca idahoensis</i>
bottlebrush squirreltail	<i>Sitanion hystrix</i>
Nevada bluegrass	<i>Poa nevadensis</i>
Sandberg bluegrass	<i>Poa sandbergii</i>

#### Perennial Introduced Species

Goldar bluebunch wheatgrass	<i>Agropyron spicatum</i>
Paiute orchardgrass	<i>Dactylis glomerata</i>
intermediate wheatgrass	<i>Agropyron intermedium</i>
pubescent wheatgrass	<i>Agropyron trichophorum</i>
Russian wildrye	<i>Elymus junceus</i>
Siberian wheatgrass	<i>Agropyron sibiricum</i>
Fairway crested wheatgrass	<i>Agropyron cristatum</i>

#### Annual Introduced Species

brome	<i>Bromus</i> spp.
-------	--------------------

### **Principal Forbs**

#### Perennial Native Species

arrowleaf balsamroot	<i>Balsamorhiza sagittata</i>
tapertip hawksbeard	<i>Crepis acuminata</i>
biscuitroot	<i>Lomatium</i> spp.
lupine	<i>Lupinus</i> spp.
fleabane	<i>Erigeron</i> spp.
longleaf phlox	<i>Phlox longifolia</i>

#### Perennial Introduced Species

Appar Lewis flax	<i>Linum lewisii</i>
Eski sainfoin	<i>Onobrychis viciaefolia</i>
small burnett	<i>Sanguisorba minor</i>

### **Principal Shrubs**

#### Native Species

basin big sagebrush	<i>Artemisia tridentata</i>
---------------------	-----------------------------

bitterbrush  
*Wyeth eriogonum*  
green rabbitbrush  
gray rabbitbrush

*Purshia tridentata*  
*Eriogonum heracleoides*  
*Chrysothamnus viscidiflorus*  
*Chrysothamnus nauseosus*

Introduced Species

Hobble Creek sagebrush  
four-wing saltbush

*Artemisia tridentata vaseyana x wyomingensis*  
*Artiplex canescens*

**Zone 7**

Loamy 12"-16" Mountain Big Sagebrush\Idaho Fescue

**Principal Grasses**

Perennial Native Species

bluebunch wheatgrass  
Idaho fescue  
Columbia needlegrass  
bottlebrush squirreltail  
Nevada bluegrass  
prairie junegrass

*Agropyron spicatum*  
*Festuca idahoensis*  
*Stipa columbiana*  
*Sitanion hystrix*  
*Poa nevadensis*  
*Koeleria cristata*

Perennial Introduced Species

Goldar bluebunch wheatgrass  
Paiute orchardgrass  
intermediate wheatgrass  
Russian wildrye

*Agropyron spicatum*  
*Dactylis glomerata*  
*Agropyron intermedium*  
*Elymus junceus*

Annual Introduced Species

brome

*Bromus* spp.

**Principal Forbs**

Perennial Native Species

arrowleaf balsamroot  
lupine  
tapertip hawksbeard  
geranium  
indian paintbrush  
fleabane  
longleaf phlox

*Balsamorhiza sagittata*  
*Lupinus* spp.  
*Crepis acuminata*  
Geranium spp.  
*Castilleja* spp.  
*Erigeron* spp.  
*Phlox longifolia*

### Perennial Introduced Species

Appar Lewis flax  
Eski sainfoin  
small burnett

*Linum lewisii*  
*Onobrychis viciaefolia*  
*Sanguisorba minor*

### Principal Shrubs

#### Native Species

mountain big sagebrush  
bitterbrush  
Wyeth eriogonum  
serviceberry  
chokecherry  
green rabbitbrush  
mountain snowberry  
gray rabbitbrush

*Artemisia tridentata vaseyana*  
*Purshia tridentata*  
*Eriogonum heracleoides*  
*Amelanchier alnifolia*  
*Prunus virginiana*  
*Chrysothamnus viscidiflorus*  
*Symphoricarpos oreophilus*  
*Chrysothamnus nauseosus*

#### Introduced Species

Hobble Creek sagebrush

*Artemisia tridentata vaseyana x wyomingensis*

### Zone 8

Shallow Stony 8"-16" Low Sagebrush\Bluebunch Wheatgrass

### Principal Grasses

#### Perennial Native Species

bluebunch wheatgrass  
Sandberg bluegrass  
Thurber needlegrass  
bottlebrush squirreltail  
prairie junegrass  
indian ricegrass  
Nevada bluegrass  
needleandthread grass

*Agropyron spicatum*  
*Poa sandbergii*  
*Stipa thurberiana*  
*Sitanion hystrix*  
*Koeleria cristata*  
*Oryzopsis hymenoides*  
*Poa nevadensis*  
*Stipa comata*

#### Perennial Introduced Species

Goldar bluebunch wheatgrass

*Agropyron spicatum*

#### Annual Introduced Species

brome

*Bromus* spp.

### Principal Forbs

#### Perennial Native Species

arrowleaf balsamroot

*Balsamorhiza sagittata*

biscuitroot	<i>Lomatium spp.</i>
tapertip hawksbeard	<i>Crepis acuminata</i>
lupine	<i>Lupinus spp.</i>
buckwheat	<i>Eriogonum spp.</i>
penstemon	<i>Penstemon spp.</i>
indian paintbrush	<i>Castilleja spp.</i>
fleabane	<i>Erigeron spp.</i>
aster	<i>Aster spp.</i>
onion	<i>Allium spp.</i>
Carpet phlox	<i>Phlox hoodii</i>

#### Perennial Introduced Species

Appar Lewis flax	<i>Linum lewisii</i>
Eski sainfoin	<i>Onobrychis viciaefolia</i>
prostrate kochia	<i>Kochia prostrata</i>
small burnett	<i>Sanguisorba minor</i>

#### Principal Shrubs

##### Native Species

low sagebrush	<i>Artemisia arbuscula</i>
bitterbrush	<i>Purshia tridentata</i>
green rabbitbrush	<i>Chrysothamnus viscidiflorus</i>
Wyoming big sagebrush	<i>Artemisia tridentata wyomingensis</i>
gray horsebush	<i>Tetradymia canescens</i>

##### Introduced Species

Lund sagebrush	<i>Artemisia tridentata vaseyana x wyomingensis</i>
----------------	---

#### Zone 9

Stony Clay 12"-16" Alkali Sagebrush\Idaho Fescue

#### Principal Grasses

##### Perennial Native Species

Idaho fescue	<i>Festuca idahoensis</i>
bluebunch wheatgrass	<i>Agropyron spicatum</i>
Nevada bluegrass	<i>Poa nevadensis</i>
Thurber needlegrass	<i>Stipa thurberiana</i>
bottlebrush squirreltail	<i>Sitanion hystrrix</i>
Sandberg bluegrass	<i>Poa sandbergii</i>
bulbous oniongrass	<i>Melica bulbosa</i>
prairie junegrass	<i>Koeleria cristata</i>

### Perennial Introduced Species

### **Goldar bluebunch wheatgrass    *Agropyron spicatum***

### Annual Introduced Species

brome *Bromus* spp.

## **Principal Forbs**

## Perennial Native Species

lupine	<i>Lupinus</i> spp.
longleaf phlox	<i>Phlox longifolia</i>
arrowleaf balsamroot	<i>Balsamorhiza sagittata</i>
cutleaf balsamroot	<i>Balsamorhiza hookeri</i>
biscuitroot	<i>Lomatium</i> spp.
vetch	<i>Vicia</i> spp.
mountain agoseris	<i>Agoseris glauca</i>
indian paintbrush	<i>Castilleja</i> spp.
fleabane	<i>Erigeron</i> spp.
onion	<i>Allium</i> spp.

### Perennial Introduced Species

Appar Lewis flax      *Linum lewisii*  
Eski sainfoin      *Onobrychis viciaefolia*  
small burnett      *Sanguisorba minor*

## Principal Shrubs

## Native Species

alkali sagebrush	<i>Artemisia longiloba</i>
bitterbrush	<i>Purshia tridentata</i>
buckwheat	<i>Eriogonum</i> spp.
green rabbitbrush	<i>Chrysothamnus viscidiflorus</i>

## Introduced Species

#### **None proposed**

## Zone 10

Churning Clay 8"-12" Wyoming Big Sagebrush\Bluebunch Wheatgrass

## Principal Grasses

## Perennial Native Species

**bluebunch wheatgrass** *Agropyron spicatum*  
**Thurber needlegrass** *Stipa thurberiana*

Sandberg bluegrass	<i>Poa sandbergii</i>
Nevada bluegrass	<i>Poa nevadensis</i>
bottlebrush squirreltail	<i>Sitanion hystrrix</i>
Great Basin wildrye	<i>Elymus cinereus</i>

#### Perennial Introduced Species

Goldar bluebunch wheatgrass	<i>Agropyron spicatum</i>
Siberian wheatgrass	<i>Agropyron sibiricum</i>
pubescent wheatgrass	<i>Agropyron trichophorum</i>
Fairway crested wheatgrass	<i>Agropyron cristatum</i>
standard crested wheatgrass	<i>Agropyron desertorum</i>

#### Annual Introduced Species

brome	<i>Bromus</i> spp.
-------	--------------------

#### Principal Forbs

##### Perennial Native Species

tapertip hawksbeard	<i>Crepis acuminata</i>
nineleaf biscuitroot	<i>Lomatium triternatum</i>
<i>penstemon</i>	<i>Penstemon</i> spp.
fleabane	<i>Erigeron</i> spp.
aster	<i>Aster</i> spp.
mountain agoseris	<i>Agoseris glauca</i>
onion	<i>Allium</i> spp.
longleaf phlox	<i>Phlox longifolia</i>
Carpet phlox	<i>Phlox hoodii</i>
yellow fritillaria	<i>Fritillaria pudica</i>

##### Perennial Introduced Species

Appar Lewis flax	<i>Linum lewisii</i>
prostrate kochia	<i>Kochia prostrata</i>
Eski sainfoin	<i>Onobrychis viciaefolia</i>
small burnett	<i>Sanguisorba minor</i>

#### Principal Shrubs

##### Native Species

Wyoming big sagebrush	<i>Artemisia tridentata wyomingensis</i>
bitterbrush	<i>Purshia tridentata</i>
gray rabbitbrush	<i>Chrysothamnus nauseosus</i>
green rabbitbrush	<i>Chrysothamnus viscidiflorus</i>
spiny hopsage	<i>Grayia spinosa</i>

##### Introduced Species

Lund sagebrush	<i>Artemisia tridentata vaseyana x wyomingensis</i>
----------------	---

silver sagebrush	<i>Artemisia cana cana</i>
four-wing saltbush	<i>Artiplex canescens</i>

## Zone 12

Wet/Semi-wet Meadows

### Principal Grasses and Grass-like Plants

#### Perennial Native Species

tufted hairgrass	<i>Deschampsia caespitosa</i>
Nebraska sedge	<i>Carex nebrascensis</i>
sedge	<i>Carex</i> spp.
Baltic rush	<i>Juncus balticus</i>
stream bank wheatgrass	<i>Agropyron riparium</i>
Nevada bluegrass	<i>Poa nevadensis</i>

#### Perennial Introduced Species

meadow foxtail	<i>Alopecurus pratensis</i>
redtop bentgrass	<i>Agrostis alba</i>
orchardgrass	<i>Dactylis glomerata</i>
Kentucky bluegrass	<i>Poa pratensis</i>
timothy	<i>Phleum pratense</i>

#### Annual Introduced Species

brome	<i>Bromus</i> spp.
-------	--------------------

### Principal Forbs

#### Perennial Native Species

common camas	<i>Camassia quamash</i>
cinquefoil	<i>Potentilla</i> spp.
groundsel	<i>Senecio</i> spp.
clover	<i>Trifolium</i> spp.
geranium	<i>Geranium</i> spp.
vetch	<i>Vicia</i> spp.
lupine	<i>Lupinus</i> spp.
lousewort	<i>Pedicularis groenlandica</i>
indian paintbrush	<i>Castilleja</i> spp.
dock	<i>Rumex</i> spp.
aster	<i>Aster</i> spp.
yarrow	<i>Achillea millefolium</i>

#### Perennial Introduced Species

dandelion	<i>Taraxacum officinale</i>
-----------	-----------------------------

## Principal Shrubs

### Native Species

willow	<i>Salix spp.</i>
aspen	<i>Populus tremuloides</i>
red-osier dogwood	<i>Cornus stolonifera</i>
elderberry	<i>Sambucus caerulea</i>
golden current	<i>Ribes aureum</i>
chokecherry	<i>Prunus virginiana</i>
Wood rose	<i>Rosa woodsii</i>

### Introduced Species

black hawthorn	<i>Crataegus douglasii</i>
----------------	----------------------------



# Glossary

**Access, Exclusive Legal:** The Federal government obtains full control of easement and determines all use of the easement.

**Acre-feet:** A unit for measuring volume, equal to the quantity of water or other material required to cover one acre to a depth of one foot or a volume of 43,560 cubic feet.

**Allotment Management Action:** A specific action stated within an allotment management plan.

**Allotment Management Plan:** A concisely written program of livestock grazing management, including supportive measures if required, designed to attain specific management goals in a grazing allotment.

**Allowable Cut:** The amount of timber that can be harvested on an annual or decade basis consistent with the principle of sustained yield.

**Alluvium:** Unconsolidated rock or soil material deposited by running water, including gravel, sand, silt, clay, and various mixtures of these.

**Animal Unit Month (AUM):** The forage needed to support one cow, one horse, or five sheep for a month or one elk, five deer, or five antelope for the same period of time (1,800 lbs/AUM on a 50 percent utilization basis).

**Area of Critical Environmental Concern (ACEC):** An area within the public land where special management attention is required: (1) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or (2) to protect life and safety from natural hazards.

**Avoidance:** A partial or complete redesign or relocation of a proposed land use to prevent a potential adverse effect from occurring. Rights-of-way may be granted only when no feasible alternative route or designated right-of-way corridor is available.

**Back-country Byway:** A component of the National Scenic Byway system which focuses primarily on scenic corridors along back-country roads.

**Back-country Vehicle:** Any motorized vehicle for cross-country travel over land, water, sand, snow, ice, marsh, swampland, or other terrain.

**Beneficial Use:** The reasonable and appropriate use of water for a purpose consistent with Idaho state laws and the best interest of the people. Uses include, but are not limited to, domestic water supplies, agricultural water supplies, wildlife habitat, and recreation on or in the water. The seven beneficial uses recognized by the State are shown in the table headings.

**BLM Land:** Land administered by the Bureau of Land Management.

**Board Foot:** A unit of solid wood one foot square and one inch thick.

**Canopy:** The continuous cover of branches and foliage formed collectively by the crown of adjacent trees and other woody growth.

**Cave:** Any naturally occurring void, cavity, recess, or system of interconnected passages beneath the surface of the earth or within a cliff or ledge, including any cave resource therein, and which is large enough to permit a person to enter, whether the entrance is excavated or naturally formed. Such term shall include any natural pit, sinkhole, or other feature that is an extension of a cave entrance or which is an integral part of the cave.

**Cave Resource:** Any materials or substances appearing naturally in caves on federal land including, but not limited to, biotic, cultural, mineralogic, paleontologic, geologic, and hydrologic resources.

**Commercial Forest Land:** All forest land that is capable of growing at least 20 cubic feet of wood per acre per year of a commercial tree species and not withdrawn from timber production.

**Conditions of Approval:** Conditions or provisions (requirements) under which an Application for Permit to Drill or a Sundry Notice is approved.

**Contiguous:** Land or legal subdivisions having a common boundary; land having only a common corner are not contiguous.

**Coordinated Resource Management Activity Plan (CRAMP):** An actively level plan completed for more than one resource in a given area or site, usually when conflicts or potential conflicts could occur between various resource activities.

**Crucial Winter Range Closure:** Land identified as critical to big game during winter months.

**Cultural Resources:** Those fragile and non-renewable remains of human activity, occupation, or endeavor, reflected in districts, sites, structures, buildings, objects, artifacts, ruins, works of art, architecture, and natural features that were of importance in human events.

**Desired Future Vegetation Condition or Desired Plant Community (DPC):** The one plant community, within an ecological site's capability, occupying a site that best meets the management plans as developed by an interdisciplinary team.

**Discharged Use:** A category applied to a cultural resource that was previously qualified for alignment to another category and no longer poses the qualifying characteristics.

**Ecological Site:** A kind of rangeland with a specific potential natural community and specific physical site characteristics, differing from other kinds of rangeland in its ability to produce vegetation and to respond to management. Ecological sites are defined and described with soil, species composition, and production emphasis. Ecological site is synonymous with range site.

**Ecological Status:** The present state of vegetation of an ecological site in relation to the potential natural community of the site. Ecological status is use independent. It is an expression of the relative degree to which the kinds, proportions, and amounts of plants in a community resemble that of the potential natural community. The four ecological status classes correspond to 0-25, 26-50, 51-75, or 76-100 percent similarity to the potential natural community and are called early seral, mid seral, late seral, and potential natural community, respectively.

**Ecosystem:** Collectively, all populations in a community, plus the associated environmental factors.

**Endangered Species:** Any species in danger of extinction throughout all or a significant portion of its range.

**Environmental Assessment (EA):** A report analyzing the impacts of some proposed action on a given environment. it is similar to an environmental impact statement (EIS) except it is generally smaller in scope and makes recommendations for action. EAs are sometimes preliminary to EISs.

**Eolian:** Pertaining to, caused by, or carried by the wind.

**Ephemeral Stream:** A stream that flows occasionally because of surface runoff, but is not influenced by permanent ground water.

**Erosion:** The process by which soil particles are detached and moved.

**Exception:** Case-by-case exemption from a lease stipulation. The stipulation continues to apply to all other sites within the leasehold to which the restrict criteria applies.

**Exclusion Areas:** Areas where future rights-of-way may be granted only when mandated by law.

**Flyway:** An established air route of migratory birds.

**Forb:** A non-woody herbaceous plant.

**Forest Management:** The Society of American Foresters defines forest management as: "The application of business methods and technical forestry principles to the operation of a forest property."

**Fragile Soil:** Category of problem sites composed of soils that have moderate to high water holding capacities, moderate to slow permeability, and can be severely degraded by compaction, slumping and sliding, and erosion.

**Fragile Soil/Slope Gradient:** Problem sites where unstable land forms and unstable or erosive soils are made more vulnerable to degradation by steep slopes.

**Game Species:** Those species commonly harvested either for sport or profit.

**Ground Water:** Water beneath the land surface, in the zone of saturation.

**Habitat:** A specific set of physical conditions that surrounds the single species, a group of species, or a large community. In wildlife management, the major components of habitat are considered to be food, water, cover, and living space.

**Habitat Management Plan (HMP):** A written and approved activity plan for a geographical area of public land identifying wildlife habitat management actions to be implemented in achieving specific objectives related to planning document decisions.

**Imprint:** A mark or evidence left by man.

**Intermittent Stream:** A stream that does not flow year-round but has some association with ground water for surface or subsurface flow.

**Intrusion:** A feature (land and water form, vegetation, or structure) that is generally considered out of context with the characteristic landscape.

**Lease (fluid):** A contract in legal form that provides for the right to develop and produce fluid resources for a specific period of time under certain agreed upon terms and conditions.

**Leasable Minerals:** Oil, gas, sodium, potassium, phosphate, coal, oil, shale, tar sands, geothermal, asphaltic minerals, and, in Louisiana and New Mexico, sulphur and all minerals on the Outer Continental Shelf, and in acquired land.

**Locatable Minerals:** Minerals or materials subject to disposal and development through the Mining Law of 1872 (as amended). Generally includes metallic minerals such as gold and silver and other materials not subject to lease or sale.

**MBF:** Thousand board feet.

**Management Framework Plan (MFP):** Land use plan for public land which provides a set of goals, objectives, and constraints for a specific planning area to guide the development of detailed plans for the management of each resource.

**Minor Forest Products:** Forest products which are measured and sold in units other than board feet (i.e., posts, poles, and firewood).

**Modification:** Fundamental change to the provisions of a lease stipulations, either temporarily or for the term of the lease. A modification, may, there, include an exemption from or alternation to a stipulated requirement. Depending on the specific modification, the stipulation may or may not apply to all other sites within the leasehold to which the restrictive criteria applies.

**Management Situation Analysis (MSA):** An analysis by the BLM used for making land management decisions that are responsive to public issues to determine the capability of public land resources. This is available for review in the Shoshone District Office.

**Management Use:** The category applied to any cultural property considered most useful for controlled experimental study that would result in its physical alteration.

**Mineral Estate:** The ownership of the right to all or certain minerals in the land, or reservation of fractional interest in all or certain minerals in perpetuity or for a specified period of time.

**Mineral Material:** Widespread deposits of common clay, sand, gravel, or stone, which are not subject to disposal under the 1872 Mining Law, as amended.

**National Register of Historic Places:** The official list, established by the *National Historic Preservation Act* of 1966, of the nation's cultural resources worth of preservation. The register lists archaeological, historic, and architectural properties (i.e., districts, sites, buildings, structures and objects) nominated for their local, state, or national significance by state or federal agencies and approved by the National register staff.

**Non-commercial Forest Land:** All forest land that is not capable of producing at least 20 cubic feet of wood per acre per year of commercial species, or land that is capable of producing only noncommercial tree species.

**Non-game Species:** Those species not commonly harvested either for sport or profit.

**Non-use:** Allowable livestock grazing use (in AUMs) that is authorized but is not to be used during a given time period. Nonuse is applied for and authorized on an annual basis.

**No Surface Occupancy:** A fluid mineral leasing stipulation that prohibits occupancy or disturbance of all or part of the lease surface in order to protect special values. Fluid resources may be developed by directional drilling.

**Off-Highway Vehicle (OHV):** This designation replaces the off-road vehicle (ORV) designation and is all inclusive of un-surfaced roads. This designation aids in management of seasonal closures on all un-surfaced roads needing protection during wet seasons or for protection of other resources or values.

**Perennial stream:** A stream that has year-round surface flows.

**Permeability:** The condition of being porous; containing openings of interstices through which outside properties can pass.

**Public Use:** The category applied to any cultural property that is appropriate for consideration as an interpretive exhibit in place.

**Raptors:** Birds of prey such as hawks, owls, and eagles. One of the behavior characteristics of these animals is to return, year after year, to the same nesting area. Accordingly, the nesting sites of these protected species should be retained with minimal human disturbance.

**Recreation Opportunity Spectrum (ROS).** A method of classifying the land by setting opportunity, according to the ability of the land to provide various types of physical, social, and managerial settings to satisfy the desired and expected behavioral preferences of the users.

**Reforestation Problems:** Problem sites where two or more types of interfering conditions may cause seedling mortality during the first several growing seasons. High soil temperature, drought conditions, unshaded southern and western slopes, competing vegetation, animal damage, or wind and frost damage are examples of such conditions.

**Resource Objective and Monitoring Plan (ROMP):** A document describing how, when, and where data will be collected and analyzed in order to evaluate progress in meeting resource objectives.

**Restricted Commercial Forest Land:** Land in which timber yield is lost due to land use decisions in favor of other resources.

**Right-of-way Corridor:** A designated parcel of land, either linear or areal in character, that has been identified through the land use planning process, as the preferred location for existing and future right-of-way grants and suitable to accommodate more than one type of rights-of-way that are similar, identical, or compatible.

**Riparian Area:** An area of land directly influenced by permanent water which has visible vegetation or physical characteristics reflective of this permanent water influence.

**Riprap:** A loose assemblage of broken rock erected in water or on soft ground as a foundation.

**Salable Minerals:** Minerals such as common varieties of sand, stone, gravel, cinders, pumice, pumicite, and clay that may be acquired under the *Minerals Act* of 1947, as amended.

**Scientific Use:** The category applied to any cultural property determined suitable for consideration as the subject of scientific or historical study utilizing currently available research techniques including study that would result in physical alteration of the property.

**Sediment Yield:** The amount of sediment given up by a watershed over a specified time period, usually a year. Ordinarily, it is expressed as tons, acre-feet, or cubic yards of sediment per unit of drainage per year.

**Seeding, Grass:** A seeding mixture that is predominately made up of a single grass species, usually crested wheatgrass.

**Seeding, Mixed:** A seeding mixture that is comprised of grass, forb and shrub species in approximate proportion to the desired future vegetation condition for the site.

**Significant Cave:** A cave located on federal land that has been determined to possess at least one feature, characteristic, or value related to the following: biotic, cultural, geologic/mineralogic/paleontologic, hydrologic, recreational, educational, or scientific.

**Soil Association:** A mapping unit used on general soil maps in which two or more defined taxonomic units occurring together in a characteristic pattern are combined. because the scale of the map or the purpose for which it is being made does not require delineation of the individual soils.

**Solitude:** The state of being alone or remote from habitations; isolation. A lonely, unfrequented, or secluded place.

**Special Recreation Management Area (SRMA):** Areas requiring explicit recreation management to achieve the BLM's recreation objectives and to provide specific recreation opportunities. Special management areas are identified in the RMP, which also identifies the management objectives for the area. BLM recreation investments are concentrated in these areas.

**Special Status Species (also called Sensitive Species):** A species, subspecies, or variety of plant or animal whose populations are consistently small and widely dispersed, or whose ranges are restricted to a few localities such that any appreciable reduction in numbers or habitat conditions might lead toward extinction. A determination of special status within the Idaho BLM is made by the State Director.

**Special Stipulations:** Additional specific terms and conditions that change the manner in which operations may be conducted on a lease or modify the least rights granted.

**Split Estate:** land where the surface and mineral estates have been severed and are under different ownership (i.e. private surface/federal minerals).

**Stocking Rate:** The number of specified kinds and classes of animals grazing (or utilizing) a unit of land for a specific period of time. May be expressed as animals/acre, hectare, or section, or the reciprocal (area of land/animal). When dual use is practiced (e.g., cattle and sheep), stocking rate is often expressed as animal units/unit of land or the reciprocal.

**Sustained Yield:** The achievement and maintenance, in perpetuity, of a high level of annual or regular periodic output of the various renewable resources of the public land consistent with multiple use. Amount of resource harvested normally equals the amount grown since the previous harvest.

**Supplemental Program Guidance (SPG):** Program specific guidance for resource management planning from the 1620 series of the BLM manual.

**Temporary Non-renewable Grazing Use:** Nonrenewable permits or leases for livestock grazing use issued when additional forage, above grazing preference, is temporarily available. Nonrenewable use may also be authorized upon application where forage is available due to authorized changes in grazing use, i.e., nonuse (see 43 CFR Part 4110.3-1).

**Threatened Species:** Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

**Timber Production Capability Classification (TPCC):** The process of partitioning all forest lands into major classes indicating relative suitability to produce timber on a sustained yield basis.

**Utilization Center:** The primary processing point for sawtimber (the sawmill).

**Vegetation Manipulation:** Any action that may be used to alter the vegetation composition, distribution, or structure. Actions include prescribed fire, herbicide application, plowing, seeding, hand planting, livestock management, disking, chaining, etc.

**Vista:** A panoramic scenic view from one or more vantage points.

**Visual Resources:** The land, water, vegetation, animal, and other features that are visible on all land.

**Waiver:** Permanent exemption from a lease stipulation. The stipulation no longer applies anywhere within the leasehold.

**Wetlands:** Permanently wet or intermittently flooded areas where the water table (fresh, saline, or brackish) is at, near, or above the soil surface for extended intervals, where hydric wet soil conditions are normally exhibited and where water depths generally do not exceed two meters.

**Wilderness Study Area (WSA):** A roadless area, which has been found to have wilderness characteristics (thus having the potential of being included in the National Wilderness System), and which has been subjected to intensive analysis by the Bureau of Land Management and public review to determine wilderness suitability and is not yet the subject of a congressional decision regarding designation as wilderness.

**Withdrawal:** An action that restricts the use of public land and segregates the land from the operation of some or all of the public land or mineral laws. Withdrawals are also used to transfer jurisdiction of management to other federal agencies.

**Woodland:** Forested land not capable of producing commercial sawtimber, but can and does produce forest products like firewood, transplants, posts and poles, etc.



## References

- Allen, D.R., and C.B. Marlow. 1991. *Effects of Cattle Grazing on Shoot Population Dynamics of Beaked Sedge*. A Paper Presented at the Symposium on Ecology and Management of Riparian Shrub Communities, Sun Valley, Idaho, May 29-31, 1991. Printed as Proceedings in General Technical Report INT-289, USDA, Forest Service, August, 1992.
- Bedell, Thomas E. 1984. *Livestock Grazing and the Riparian Zone*. Proceedings of the 1984 Pacific Northwest Range Management Short Course; Range Watersheds, Riparian Zones and Economics: Interrelationships in Management and Use. Oregon State University, Corvallis, Oregon. pp. 60-66.
- Beschta, R.L. and W.S. Platts. 1986. *Morphological Features of Small Streams: Significance and Function*. Paper No. 86006, Water Resources bulletin Vo. 22(3), pp. 369-379. American Water Resources Association.
- Boly, William. The Sagebrush Rebels. New West; November 3, 1980.
- Clary, W.P., Webster, B.F. 1989. *Managing Grazing of Riparian Areas in the Intermountain Region*. USDA Forest Service, Intermountain Research Station, General Technical Report INT-263.
- Clary, W.P., and D.E. Medin. 1991. *Vegetation, Breeding Bird, and Small Mammals Biomass in Two High-Elevation Sagebrush Riparian Habitats*. A Paper Presented at the Symposium on Ecology and Management of Riparian Shrub Communities, Sun Valley, Idaho, May 29-31, 1991. Printed as Proceedings in General Technical Report INT-289, USDA, Forest Service, August, 1992.
- Crouse, M.R., and R.A. Kindschy. 1981. *A Method of Predicting Riparian Vegetation Potential of Semiarid Rangelands*. A Paper Presented at the Symposium on Acquisition and Utilization of Aquatic Habitat Inventory Information, Portland, Oregon, October 28-30, 1981.
- Dames & Moore. Assessment of the Impacts of Discretionary Burning present and Proposed, on the Snake River Plan Airshed, Idaho. Job Number 6822-002-020. Portland, Oregon. 1992.
- DeBano, Leonard F. and B.H. Heede. 1987. *Enhancement of Riparian Ecosystems with Channel Structures*. Paper No. 86142, Water Resources Bulletin Vo. 23(3), pp. 463-470. American Water Resources Association.
- Fernette, G. Geology, energy and mineral (GEM) assessment of the Mt. Bennett Hills GRA, Idaho: Bureau of Land Management Contract No. YA-553-CT2-1039; 1983.
- Fowler, John M. and James R. Gray. Market Values of Federal Grazing Permits in New Mexico. Rangelands, Volume 2, No. 3; June 1980.
- Harris, A.G., Wardlaw, B.R., Rust, C.C., and Merrill, G.K. Maps for assessing thermal maturity (conodont alteration index maps) in Ordovician through Triassic rocks in Nevada and Utah and adjacent parts of Idaho and California: U.S. Geological Survey Miscellaneous Investigations Series Map I-1249, 2 sheets; 1980.
- Hill, J.M. Notes on the fine gold of Snake River, Idaho: U.S. Geological Survey Bulletin 620-L; 1915.
- Hustedde, G.E., Copeland, J.A., Strowd, W.E., Mitchell, V.E., And Bennett, E.H. Mines and prospects of the Hailey Quadrangle, Idaho: Idaho Bureau of Mines and Geology, Mines and Prospects Map Series; 1981.
- Idaho Department of Commerce, Economic Development Division. County Profiles of Idaho; 1989.

Idaho Department of Fish and Game. Elk Management Plan 1991-1995; 1990.

Idaho Department of Fish and Game. Mule Deer Management Plan 1991-1995; 1990.

Idaho Department of Fish and Game. Pronghorn Antelope Management Plan 1991-1995; 1990.

Idaho Department of Health & Welfare, Division of Environmental Quality. Idaho Non-point Source Management Program 1989; 1989.

Idaho Department of Health & Welfare, Division of Environmental Quality. Coordinated Non-point Source Water Quality Monitoring Program for Idaho; 1990.

Idaho Department of Parks and Recreation. 1990 Centennial Edition Idaho Statewide Outdoor Recreation Plan: 1990.

Jackson, William L. and B.P. Van Haveren. 1984. *Design for a Stable Channel in Coarse Alluvium for Riparian Zone Restoration*. Paper No. 84071, Water Resources Bulletin Vo. 20(5), pp. 695-703. American Water Resources Association.

Kauffman, et al. 1983a. *Impacts of Cattle on Stream Banks in Northeastern Oregon*. Journal of Range Management Volume 36:683-685.

Kauffman, et al. 1983b. *Effects of Late Season Cattle Grazing on Riparian Plant Communities*. Journal of Range Management Volume 36:685-691.

Kovalchik, B.L., and W. Elmore. 1991. *Effects of Cattle Grazing Systems on Willow-dominated Plant Association in Central Oregon*. A Paper Presented at the Symposium on Ecology and Management of Riparian Shrub Communities, Sun Valley, Idaho, May 29-31, 1991. Printed as Proceedings in General Technical Report INT-289, USDA, Forest Service, August, 1992.

*Livestock Grazing on Western Riparian Areas*. 1990. Produced for the U.S. Environmental Protection Agency by the Northwest Resource Information Center, Inc., Eagle, Idaho.

Malde, H.E., Powers, H.A., and Marshall, C.H. Reconnaissance geologic map of west-central Snake River Plain, Idaho: U.S. Geological Survey Miscellaneous Geologic Investigations Map I-373; 1963.

Marlow, C.B., et al.. 1989. *Response of a Southwest Montana Riparian System to Four Grazing Management Alternatives*. A Paper Presented at Riparian Resource Management, an educational workshop. Billings, Montana, May 8-11, 1989. Printed by U.S. Bureau of Land Management, Billings, Montana.

Myers, Lewis H. 1989. *Grazing and Riparian Management in Southwestern Montana*. A Paper Presented at Riparian Resource Management, an educational workshop. Billings, Montana, May 8-11, 1989. Printed by U.S. Bureau of Land Management, Billings, Montana.

Nielson, Aaron G. and J. P. Workman. The Importance of Renewable Grazing Resources on Federal Lands in the 11 Western States, Utah Agricultural Experiment Station, Logan, Utah State University, Circular 155; 1971.

Platts, William S. 1981. *Influence of Forest and Rangeland Management on Anadromous Fish Habitat in Western North America, 7. Effects of Livestock Grazing*; Meehan, William R. ed. General Technical Report PNW-124, Intermountain Forest and Range Experiment Station, Boise, Idaho, USDA, Forest Service.

Platts, William S. 1983. *Those Vital Stream Banks*. Reprinted from: Western Wildlands 3(9); 1983. Purchased by USDA Forest Service for Official Use.

Platts, William S. 1984. *Progress in Range Riparian-Stream Research at the Intermountain Forest and Range Experiment Station*. Reprinted from: Archer, Donald L., ed. Proceedings of the Bonneville Chapter of the American Fisheries Society; 1984 February 8-9; Logan, UT. Salt Lake City, UT: Bonneville Chapter of the American Fisheries Society; 1984: 78-84.

Platts, William S. 1989. *Compatibility of Livestock Grazing Strategies with Fisheries*. A Paper Presented at Riparian Resource Management, an educational workshop. Billings, Montana, May 8-11, 1989. Printed by U.S. Bureau of Land Management, Billings, Montana.

Platts, William S. 1990. *Managing Fisheries and Wildlife on Rangelands Grazed by Livestock, a Guide and Reference Document for Biologists*. Prepared for the Nevada Department of Wildlife.

Platts, W.S., and R.L. Nelson. 1983. *The Electronic Capacitance Meter: A Tool for Evaluating Riparian-Fishery Habitat*. North American Journal of Fisheries Management, Volume 3, 1983.

Powers, H.A. Diatomite deposits of southwestern Idaho: Idaho Bureau of Mines and Geology, Idaho Mineral Resources Report No. 4; 1947.

Rabe, R.S., Wallace, R.L. Savage, N.L., Newton, T.N., and Drueger, S. 1976. Aquatic Habitat Survey - Shoshone Multiple Use Project EIS Area. Project No. YA-510-PH6-117. North American Planning Group, Inc., Moscow, Idaho. 121 pp.

Reininger, B. 1978. A Survey of Designated Streams Located Within the Sun Valley Planning Unit in the Bureau of Land Management District. Interagency Agreement No. ID-910-CT8-007. Idaho Department of Fish and Game, Boise, Idaho. 55 pp.

Satterlund, Donald R. 1972. *Wildland Watershed Management*. The Ronald Press Company, New York

Shaw, Nancy L. 1991. *Recruitment and Growth of Pacific Willows and Sandbar Willow Seedlings in Response to Season and Intensity of Cattle Grazing*. A Paper Presented at the Symposium on Ecology and Management of Riparian Shrub Communities, Sun Valley, Idaho, May 29-31, 1991. Printed as Proceedings in General Technical Report INT-289, USDA, Forest Service, August, 1992.

Skinner, K.G., Dammann, A.A., Swift, R.E., Eyerly, G.B., and Shuck, G.R. Diatomites of the Pacific Northwest as filter aids: U.S. Bureau of Mines Bulletin 460; 1944.

Skovlin, Jon M. 1965. *Improving Cattle Distribution on Western Mountain Rangelands*. U.S. Department of Agriculture - Farmers' Bulletin No. 2212. U.S. Government Printing Office, Washington, D.C.

Stoddart, Laurence A., A.D. Smith, T.W. Box. Range Management, Third Edition; 1975.

Stoddart, L.A. and A.D. Smith. 1955. *Range Management*. McGraw-Hill Book Co. Inc., New York. Second Edition.

Stoddart, et al. 1975. *Range Management*. McGraw-Hill Book Co. Inc., New York. Third Edition.

Stroud, W.E., Mitchell, V.E., Hustedde, G.E., And Bennett, E.H. Mines and prospects of the Twin Falls Quadrangle, Idaho: Idaho Bureau of Mines and Geology, Mines and Prospects Map Series; 1981.

- U.S. Department of Agriculture. Yearbook of Agriculture; 1925.
- U.S. Department of Agriculture, Soil Conservation Service. Soil Survey of Camas County Area, Idaho; 1981.
- U.S. Department of Agriculture, Soil Conservation Service. Soil Survey of Blaine County Area, Idaho; 1991.
- U.S. Department of Agriculture, Soil Conservation Service. Soil Survey of Elmore County Area, Idaho; 1991.
- U.S. Department of Commerce, Bureau of Economic Analysis. Local Area Personal Income 1983-88, Volume 5; 1990.
- U.S. Fish and Wildlife Service. National Survey of Fishing, Hunting, and Wildlife-Associated Recreation-Idaho; 1980.
- U.S. Department of the Interior, Bureau of Land Management. Bennett Hills/Timmerman Management Framework Plan; 1976.
- U.S. Department of the Interior, Bureau of Land Management. Shoshone Isolated Tracts Wildlife Habitat Management Plan; 1978.
- U.S. Department of the Interior, Bureau of Land Management. Final Shoshone Grazing Environmental Statement; 1979.
- U.S. Department of the Interior, Bureau of Land Management. Final Sun Valley Grazing Environmental Statement; 1981.
- U.S. Department of the Interior, Bureau of Land Management. Sun Valley Management Framework Plan; 1981.
- U.S. Department of the Interior, Bureau of Land Management. Johnson Hill Elk Habitat Management Plan; 1983.
- U.S. Department of the Interior, Bureau of Land Management. Minimum Monitoring Standards for BLM-Administered Rangelands in Idaho; 1984.
- U.S. Department of the Interior, Bureau of Land Management. Proposed Monument Resource Management Plan and Final Environmental Impact Statement; 1985.
- U.S. Department of the Interior, Bureau of Land Management. Final Environmental Impact Statement Shoshone/Sun Valley Wilderness Study; 1986.
- U.S. Department of the Interior, Bureau of Land Management. Fish and Wildlife 2000: A Plan for the Future; 1987.
- U.S. Department of the Interior, Bureau of Land Management. Proposed Jarbidge Resource Management Plan and Final Environmental Impact Statement; 1987.
- U.S. Department of the Interior, Bureau of Land Management. Final Environmental Impact Statement Jarbidge Wilderness Study; 1987.
- U.S. Department of the Interior, Bureau of Land Management. Final Environmental Impact Statement Monument Wilderness Study; 1987.

U.S. Department of the Interior, Bureau of Land Management. Final Environmental Impact Statement Small Wilderness Study Areas Statewide; 1989.

U.S. Department of the Interior, Bureau of Land Management. Monument Rangeland Program Summary Progress Report 1985-1989; 1990.

U.S. Department of the Interior, Bureau of Land Management. Shoshone Rangeland Program Summary Progress Report 1980-1988; 1990.

U.S. Department of the Interior, Bureau of Land Management. Sun Valley Rangeland Program Summary Progress Report 1982-1988; 1990.

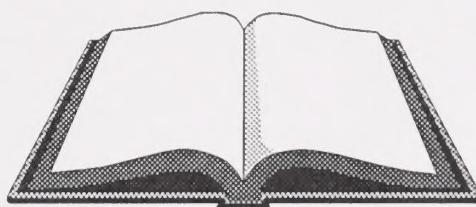
Valentine, John F. 1971. *Range Development and Improvements*. Brigham Young University Press. Provo, Utah.

Wallmo, O.C. and W.L. Regelin. 1981. Rocky Mountain and Intermountain Habitats, Part 1. Food Habits and Nutrition. In *Mule and Black-tailed Deer of North America*, O.C. Wallmo (ed.), pp. 387-398. University of Nebraska Press, Lincoln, Nebraska. 605 pp.

Winter, John R. and James K. Whittaker. An Economic Analysis of Land Prices of Mountainous Grazing Land in Eastern Oregon, Special Report 560, Agricultural Experiment Station, Oregon State University, Corvallis, Oregon; 1979.

Winward, A. 1993. Personal communication. Range Ecologist, USFS Region IV, Ogden, Utah.

Zaroban, Don W. 1993. *Water Quality Advisory Working Committee Designated Stream Segments of Concern 1992-94*. Idaho Department of Health and Welfare. Boise, Idaho.







BLM LIBRARY  
RS 150A BLDG. 50  
DENVER FEDERAL CENTER  
P.O. BOX 25047  
DENVER, CO 80225

Property of BLM/DSO Library

R'S CARD

1994  
Land  
Shoshone  
Hills Resource  
plan and draft

OFFICE	DATE RETURNED

(Continued on reverse)

HD 243 .I2 S56 1994  
U. S. Bureau of Land  
Management. Shoshone  
Draft Bennett Hills Resource  
management plan and draft

BLM LIBRARY  
RS 150A BLDG. 50  
DENVER FEDERAL CENTER  
P.O. BOX 25047  
DENVER, CO 80225

R. 11 E. R. 12 E. R. 13 E. R. 14 E. R. 15 E. R. 16 E. R. 17 E. R. 18 E. R. 19 E. R. 20 E.

T. 2 N.

T. 1 N.

T. 1 S.

T. 2 S.

T. 3 S.

T. 4 S.

T. 5 S.

T. 6 S.

T. 7 S.

T. 8 S.

T. 9 S.

T. 10 S.

T. 2 N.

T. 1 N.

T. 1 S.

T. 2 S.

T. 3 S.

T. 4 S.

T. 5 S.

T. 6 S.

T. 7 S.

T. 8 S.

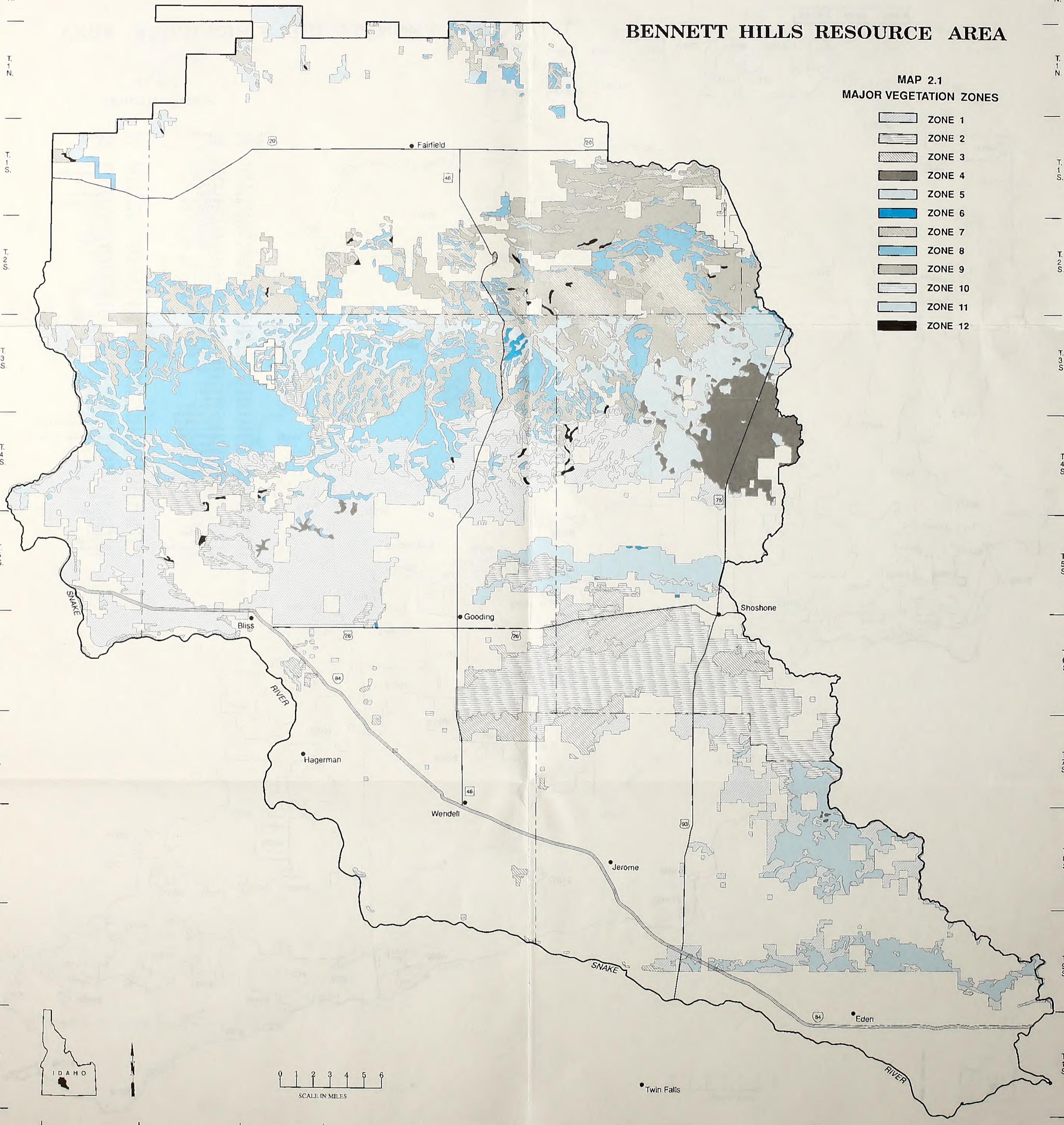
T. 9 S.

T. 10 S.

## BENNETT HILLS RESOURCE AREA

MAP 2.1  
MAJOR VEGETATION ZONES

- ZONE 1
- ZONE 2
- ZONE 3
- ZONE 4
- ZONE 5
- ZONE 6
- ZONE 7
- ZONE 8
- ZONE 9
- ZONE 10
- ZONE 11
- ZONE 12



R. 11 E

R. 12 E

R. 13 E

R. 14 |

R. 15

R. 16 E.

16

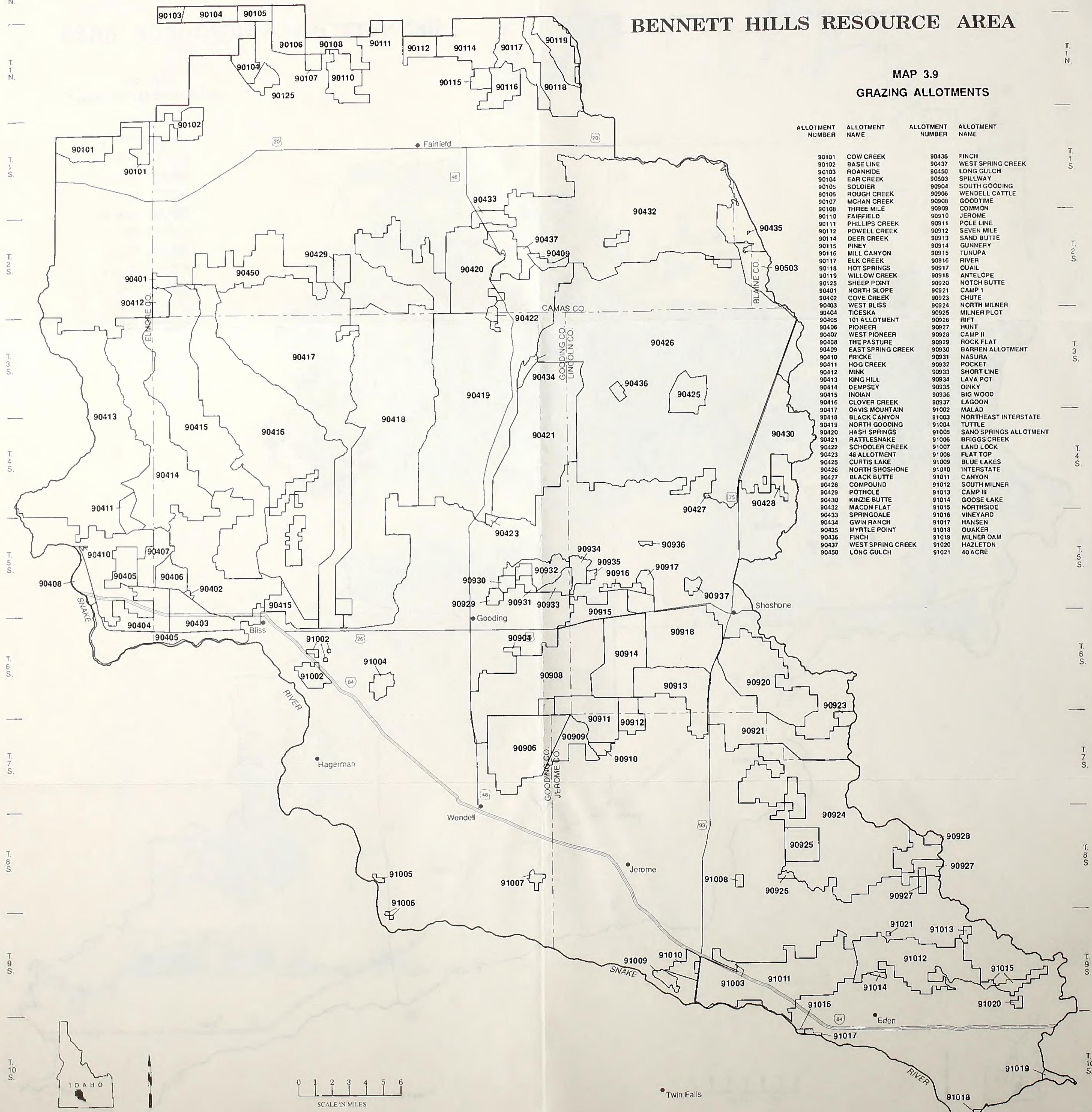
• 11 •

T2N

## **BENNETT HILLS RESOURCE AREA**

**MAP 3.9**  
**GRAZING ALLOTMENTS**

ALLOTMENT NUMBER	ALLOTMENT NAME	ALLOTMENT NUMBER	ALLOTMENT NAME
90101	COW CREEK	90436	FINCH
90102	BASE LINE	90437	WEST SPRING CREEK
90103	ROANHIDE	90450	LONG GULCH
90104	EAR CREEK	90503	SPILLWAY
90105	SOLDIER	90904	SOUTH GOODING
90106	ROUGH CREEK	90906	WENDELL CATTLE
90107	MCHAN CREEK	90908	GOODTIME
90108	THREE MILE	90909	COMMON
90110	FAIRFIELD	90910	JEROME
90111	PHILLIPS CREEK	90911	POLE LINE
90112	POWELL CREEK	90912	SEVEN MILE
90114	DEER CREEK	90913	SAND BUTTE
90115	PINEY	90914	GUNNERY
90116	MILL CANYON	90915	TUNUPA
90117	ELK CREEK	90916	RIVER
90118	HOT SPRINGS	90917	OUAIL
90119	WILLOW CREEK	90918	ANTELOPE
90125	SHEEP POINT	90920	NOTCH BUTTE
90401	NORTH SLOPE	90921	CAMP I
90402	COVE CREEK	90923	CHUTE
90403	WEST BLISS	90924	NORTH MILNER
90404	TICESKA	90925	MILNER PLOT
90405	101 ALLOTMENT	90926	RIFT
90406	PIONEER	90927	HUNT
90407	WEST PIONEER	90928	CAMP II
90408	THE PASTURE	90929	ROCK FLAT
90409	EAST SPRING CREEK	90930	BARREN ALLOTMENT
90410	FRICKE	90931	NASURA
90411	HOG CREEK	90932	POCKET
90412	MINK	90933	SHORT LINE
90413	KING HILL	90934	LAVA POT
90414	DEMPSEY	90935	OINKY
90415	INDIAN	90936	BIG WOOD
90416	CLOVER CREEK	90937	LAGOON
90417	DAVIS MOUNTAIN	91002	MALAD
90418	BLACK CANYON	91003	NORTHEAST INTERSTATE
90419	NORTH GOODING	91004	TUTTLE
90420	HASH SPRINGS	91005	SANO SPRINGS ALLOTMENT
90421	RATTLESNAKE	91006	BRIGGS CREEK
90422	SCHOOLER CREEK	91007	LAND LOCK
90423	46 ALLOTMENT	91008	FLAT TOP
90425	CURTIS LAKE	91009	BLUE LAKES
90426	NORTH SHOSHONE	91010	INTERSTATE
90427	BLACK BUTTE	91011	CANYON
90428	COMPOUND	91012	SOUTH MILNER
90429	POTHOLE	91013	CAMP III
90430	KINZIE BUTTE	91014	GOOSE LAKE
90432	MACON FLAT	91015	NORTHSIDE
90433	SPRINGOALE	91016	VINEYARD
90434	GWIN RANCH	91017	HANSEN
90435	MYRTLE POINT	91018	OUAKER
90436	FINCH	91019	MILNER OAM
90437	WEST SPRING CREEK	91020	HAZLETON
90450	LONG GULCH	91021	40 ACRE



R. 11 E. R. 12 E. R. 13 E. R. 14 E. R. 15 E. R. 16 E. R. 17 E. R. 18 E. R. 19 E. R. 20 E.

T. 2 N.

T. 1 N.

T. 1 S.

T. 2 S.

T. 3 S.

T. 4 S.

T. 5 S.

T. 6 S.

T. 7 S.

T. 8 S.

T. 9 S.

T. 10 S.

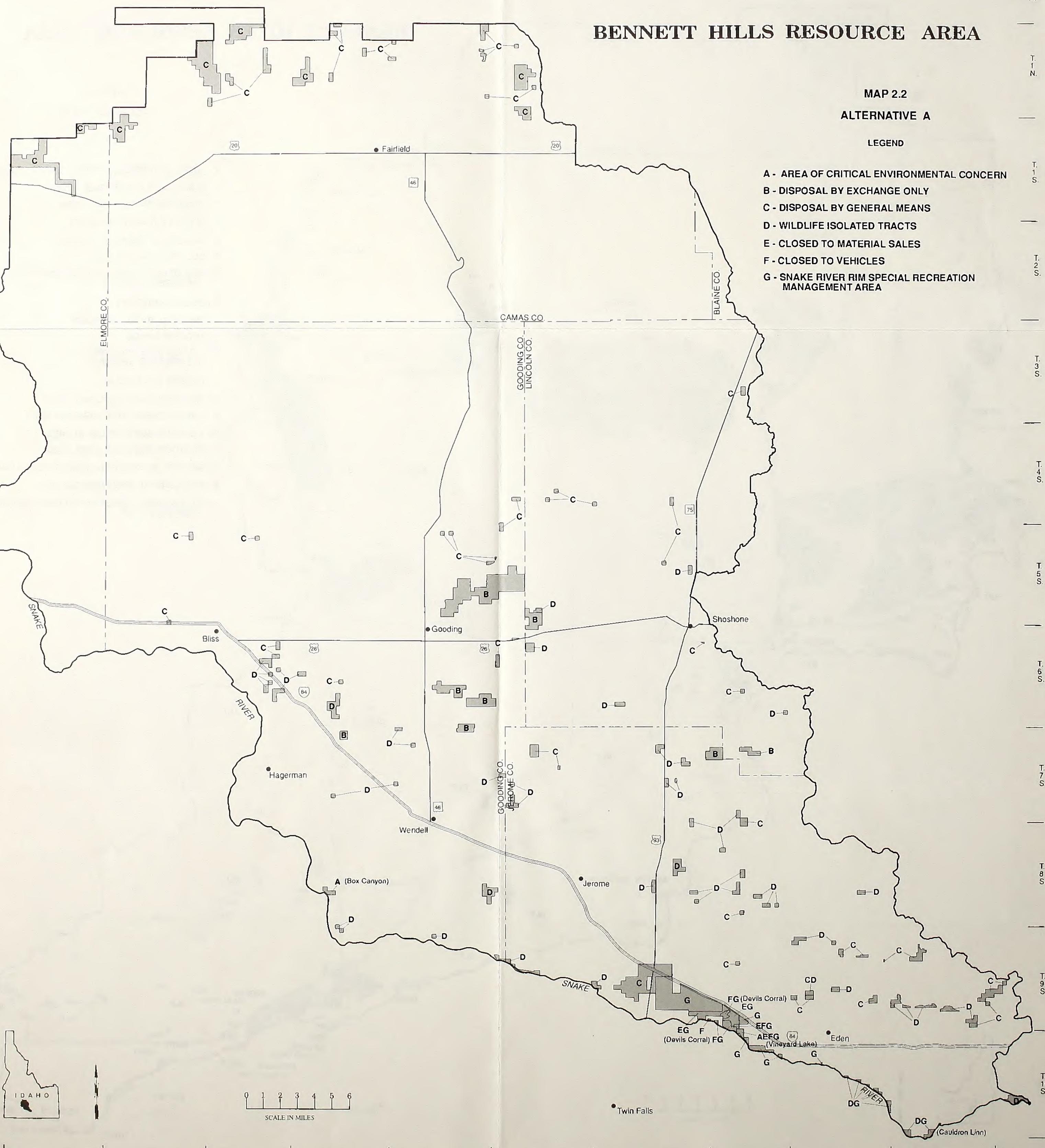
## BENNETT HILLS RESOURCE AREA

MAP 2.2

### ALTERNATIVE A

#### LEGEND

- A - AREA OF CRITICAL ENVIRONMENTAL CONCERN
- B - DISPOSAL BY EXCHANGE ONLY
- C - DISPOSAL BY GENERAL MEANS
- D - WILDLIFE ISOLATED TRACTS
- E - CLOSED TO MATERIAL SALES
- F - CLOSED TO VEHICLES
- G - SNAKE RIVER RIM SPECIAL RECREATION MANAGEMENT AREA



R. 11 E.

R. 12 E.

R. 13 E.

R. 14 E.

R. 15 E.

R. 16 E.

R. 17 E.

R. 18 E.

R. 19 E.

R. 20 E.

T.  
N.T.  
N.

## BENNETT HILLS RESOURCE AREA

MAP 2.3  
ALTERNATIVE B

### LEGEND

- A - AREA OF CRITICAL ENVIRONMENTAL CONCERN
- B - DISPOSAL BY EXCHANGE ONLY
- C - DISPOSAL BY GENERAL MEANS
- D - WILDLIFE ISOLATED TRACTS
- E - CLOSED TO MATERIAL SALES
- F - CLOSED TO VEHICLES
- G - SNAKE RIVER RIM SPECIAL RECREATION MANAGEMENT AREA
- H - BACKCOUNTRY BYWAY
- I - DISPOSAL BY STATE IN LIEU
- J - ACQUIRE LANDS
- K - NO SURFACE OCCUPANCY (LEASEABLE MINERALS)
- L - LIMITED TO VEHICLES
- M - SEASONAL VEHICLE LIMITATIONS
- N - THORN CREEK PILOT RIPARIAN AREA
- O - RIGHT-OF-WAY EXCLUSION AREA
- P - RIGHT-OF-WAY AVOIDANCE AREA
- R - SPECIAL RECREATION MANAGEMENT AREA
- S - WITHDRAWAL FROM MINERAL ENTRY
- T - WILD & SCENIC RIVER WITHDRAWAL FROM MINERAL ENTRY



# BENNETT HILLS RESOURCE AREA

MAP 2.4  
ALTERNATIVE C

LEGEND

- A - AREA OF CRITICAL ENVIRONMENTAL CONCERN
- B - DISPOSAL BY EXCHANGE ONLY
- C - DISPOSAL BY GENERAL MEANS
- D - WILDLIFE ISOLATED TRACTS
- E - CLOSED TO MATERIAL SALES
- F - CLOSED TO VEHICLES
- G - SNAKE RIVER RIM SPECIAL RECREATION MANAGEMENT AREA
- H - BACKCOUNTRY BYWAY
- I - DISPOSAL BY STATE IN LIEU
- J - ACQUIRE LANDS
- K - NO SURFACE OCCUPANCY (LEASEABLE MINERALS)
- L - LIMITED TO VEHICLES
- M - SEASONAL VEHICLE LIMITATIONS
- N - THORN CREEK PILOT RIPARIAN AREA
- O - RIGHT-OF-WAY EXCLUSION AREA
- P - RIGHT-OF-WAY AVOIDANCE AREA
- R - SPECIAL RECREATION MANAGEMENT AREA
- S - WITHDRAWAL FROM MINERAL ENTRY
- T - WILD & SCENIC RIVER WITHDRAWAL FROM MINERAL ENTRY



R. 11 E. R. 12 E. R. 13 E. R. 14 E. R. 15 E. R. 16 E. R. 17 E. R. 18 E. R. 19 E. R. 20 E.

T. 2 N.

T. 1 N.

T. 1 S.

T. 2 S.

T. 3 S.

T. 4 S.

T. 3 S.

T. 4 S.

T. 5 S.

T. 5 S.

T. 6 S.

T. 6 S.

T. 7 S.

T. 7 S.

T. 8 S.

T. 8 S.

T. 9 S.

T. 9 S.

T. 10 S.

## BENNETT HILLS RESOURCE AREA

MAP 2.5

ALTERNATIVE D

### LEGEND

- A - AREA OF CRITICAL ENVIRONMENTAL CONCERN
- B - DISPOSAL BY EXCHANGE ONLY
- C - DISPOSAL BY GENERAL MEANS
- D - WILDLIFE ISOLATED TRACTS
- E - CLOSED TO MATERIAL SALES
- F - CLOSED TO VEHICLES
- G - SNAKE RIVER RIM SPECIAL RECREATION MANAGEMENT AREA
- H - BACKCOUNTRY BYWAY
- I - DISPOSAL BY STATE IN LIEU
- J - ACQUIRE LANDS
- K - NO SURFACE OCCUPANCY (OIL & GAS)
- L - LIMITED TO VEHICLES
- M - SEASONAL VEHICLE LIMITATIONS
- N - THORN CREEK PILOT RIPARIAN AREA
- O - RIGHT-OF-WAY EXCLUSION AREA
- P - RIGHT-OF-WAY AVOIDANCE AREA
- R - SPECIAL RECREATION MANAGEMENT AREA
- S - WITHDRAWAL FROM MINERAL ENTRY
- T - WILD & SCENIC RIVER WITHDRAWAL FROM MINERAL ENTRY



UNITED STATES

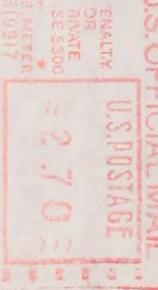
DEPARTMENT OF THE INTRIOR  
BUREAU OF LAND MANAGEMENT

SHOSHONE DISTRICT OFFICE

400 WEST F STREET

P O BOX 2-B

SHOSHONE ID 83352



OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE, \$300

**Book Rate**

Oregon State Office (933), BLM  
Attn. Eric Stone  
P O Box 2965  
Portland OR 97208